VPDES PERMIT PROGRAM FACT SHEET

This document gives pertinent information concerning the VPDES Permit listed below. This permit is being processed as a **MAJOR, MUNICIPAL** permit.

1. **PERMIT NO.**: VA0081299 **EXPIRATION DATE**: 11/29/12

2. **FACILITY NAME AND LOCAL MAILING ADDRESS**

Hampton Roads Sanitation District
Nansemond STP
1436 Air Rail Ave
Virginia Beach, VA 23455

FACILITY LOCATION ADDRESS (IF DIFFERENT)

6909 Armstead Road
Suffolk, VA 23435

CONTACT AT FACILITY:
NAME: Jamie Heisig-Mitchell
TITLE: Chief of Technical Services
PHONE: (757) 460-4220

CONTACT AT LOCATION ADDRESS
NAME: N/A
TITLE:
PHONE:

3. **OWNER CONTACT**: (TO RECEIVE PERMIT)
NAME: Mr. Edward G. Henifin
TITLE: General Manager
COMPANY NAME: HRSD
ADDRESS: 1436 Air Rail Ave
Virginia Beach, VA 23455

PHONE: (757) 460-2261

CONSULTANT CONTACT:
NAME: N/A
FIRM NAME:
ADDRESS:

PHONE: ( )

4. **PERMIT DRAFTED BY**: DEQ, Water Permits, Regional Office

Permit Writers: Deanna Austin DDA Date(s): 2/29-3/6/12
Reviewed By: Mark Sauer (MS) Date(s): 3/14/12

5. **PERMIT ACTION:**

( ) Issuance (X) Reissuance ( ) Revoke & Reissue ( ) Owner Modification
( ) Board Modification ( ) Change of Ownership/Name [Effective Date:]

6. **SUMMARY OF SPECIFIC ATTACHMENTS LABELED AS**:

Attachment 1	Site Inspection Report/Memorandum
Attachment 2	Discharge Location/Topographic Map
Attachment 3	Schematic/Plans & Specs/Site Map/Water Balance
Attachment 4	TABLE I - Discharge/Outfall Description
Attachment 5	TABLE II - Effluent Monitoring/Limitations
Attachment 6	Effluent Limitations/Monitoring Rationale/Suitable Data/Antidegradation/Antibacksliding
Attachment 7	Special Conditions Rationale
Attachment 8	Toxics Monitoring/Toxics Reduction/WET Limit Rationale
Attachment	Material Stored
Attachment 9	Receiving Waters Info./Tier Determination/STORET Data/Stream Modeling
Attachment 9	303(d) Listed Segments
Attachment 10	TABLE III(a) and TABLE III(b) - Change Sheets
Attachment 11	NPDES Industrial Permit Rating Worksheet and EPA Permit Checklist
Attachment 12	Chronology Sheet
Attachment	Public Participation

APPLICATION COMPLETE: VDH Response 2/15/12 DSS 3/12/12

7. **PERMIT CHARACTERIZATION:** (Check as many as appropriate)

(X) Existing Discharge
( ) Proposed Discharge
(X) Municipal
SIC Code #4952
( ) Industrial
SIC Code(s)
(X) POTW
( ) PVOTW
( ) Private
( ) Federal
( ) State
( ) Publicly-Owned Industrial

(X) Effluent Limited
(X) Water Quality Limited
( ) WET Limit
( ) Interim Limits in Permit
( ) Interim Limits in Other Document
( ) Compliance Schedule Required
( ) Site Specific WQ Criteria
( ) Variance to WQ Standards
( ) Water Effects Ratio
(X) Discharge to 303(d) Listed Segment
(X) Toxics Management Program Required
( ) Toxics Reduction Evaluation
( ) Storm Water Management Plan
(X) Pretreatment Program Required
( ) Possible Interstate Effect
(X) CBP Significant Dischargers List

8. **RECEIVING WATERS CLASSIFICATION:** River basin information.

Outfall No: 001

Receiving Stream: Hampton Roads Harbor (James River)
River Mile: 2-JMS006.98
Basin: James River (Lower)
Subbasin: N/A
Section: 1
Class: II
Special Standard(s): a, z
Tidal: YES
7-Day/10-Year Low Flow: N/A
1-Day/10-Year Low Flow: N/A
30-Day/5-Year Low Flow: N/A
Harmonic Mean Flow: N/A

Outfall No(s): 002-007

Receiving Stream: Streeter Creek to Hampton Roads Harbor
River Mile: 2-JMS006.98
Basin: James River (Lower)
Subbasin: N/A
Section: 1
Class: II
Special Standard(s): a, z
Tidal: YES
7-Day/10-Year Low Flow: N/A
1-Day/10-Year Low Flow: N/A
30-Day/5-Year Low Flow: N/A
Harmonic Mean Flow: N/A

9. **FACILITY DESCRIPTION:** Describe the type facility from which the discharges originate.

Existing municipal discharge resulting from the discharge of treated domestic sewage.

10. **LICENSED OPERATOR REQUIREMENTS:** ( ) No (X) Yes Class: I

11. **RELIABILITY CLASS:** I

12. **SITE INSPECTION DATE**: 3/31/10 **REPORT DATE**: 4/15/10

Performed By: Steve Long, TRO

SEE ATTACHMENT 1

Permitting Site Visit Performed by Deanna Austin on 2/22/12.

13. **DISCHARGE(S) LOCATION DESCRIPTION**: Provide USGS Topo which indicates the discharge location, significant (large) discharger(s) to the receiving stream, water intakes, and other items of interest.

Name of Topo: Newport News South Quadrant No.: 35B **SEE ATTACHMENT 2**

14. **ATTACH A SCHEMATIC OF THE WASTEWATER TREATMENT SYSTEM(S) [IND. & MUN.]. FOR INDUSTRIAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE PRODUCTION CYCLE(S) AND ACTIVITIES. FOR MUNICIPAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE TREATMENT PROVIDED.**

Narrative: This facility provides secondary treatment and enhanced nutrient removal. Treatment is provided by screening, grit removal, primary clarification, anaerobic/anoxic/aerobic units, secondary clarification, chlorination and dechlorination. Biosolids are treated by anaerobic digestion, gravity belt thickening, and centrifuge dewatering prior to disposal off site. Biosolids can also be land applied as a back-up plan by taking the biosolids to the Atlantic STP for land application. All biosolids requirements are held in the Atlantic STP permit (VA0081248).

The site added a Struvite recovery facility in 2010. The treatment is under the name Ostera and removed additional total phosphorus and ammonia. The solids created from the process are sold under the trade name of Crystal Green.
A supplemental carbon feed facility was also added since the last permit reissuance.
SEE ATTACHMENT 3

15. **DISCHARGE DESCRIPTION**: Describe each discharge originating from this facility.

SEE ATTACHMENT 4

16. **COMBINED TOTAL FLOW**:

TOTAL: 30.1 MGD (for public notice)

NONPROCESS/RAINFALL DEPENDENT FLOW: .086 MG (Est.)

DESIGN FLOW: 30 MGD (MUN.)

17. **STATUTORY OR REGULATORY BASIS FOR EFFLUENT LIMITATIONS AND SPECIAL CONDITIONS**: (Check all which are appropriate)

- [X] State Water Control Law
- [X] Clean Water Act
- [X] VPDES Permit Regulation (9 VAC 25-31-10 et seq.)
- [X] EPA NPDES Regulation (Federal Register)
- [X] EPA Effluent Guidelines (40 CFR 133 or 400 - 471)
- [X] Water Quality Standards (9 VAC 25-260-5 et seq.)
- [ ] Wasteload Allocation from a TMDL or River Basin Plan

18. **EFFLUENT LIMITATIONS/MONITORING**: Provide all limitations and monitoring requirements being placed on each outfall.

SEE TABLE II - ATTACHMENT 5

19. **EFFLUENT LIMITATIONS/MONITORING RATIONALE**: Attach any analyses of an outfall by individual toxic parameter. As a minimum, it will include: statistics summary (number of data values, quantification level, expected value, variance, covariance, 97th percentile, and statistical method); wasteload allocation (acute, chronic and human health); effluent limitations determination; input data listing. Include all calculations used for each outfall and set of effluent limits and those used in any model(s). Include all calculations/documentation of any antidegradation or anti-backsliding issues in the development of any limitations; complete the review statements below. Provide a rationale for limiting internal waste streams and indicator pollutants. Attach chlorine mass balance calculations, if performed. Attach any additional information used to develop the limitations, including any applicable water quality standards calculations (acute, chronic and human health).

OTHER CONSIDERATIONS IN LIMITATIONS DEVELOPMENT:

VARIANCES/ALTERNATE LIMITATIONS: Provide justification or refutation rationale for requested variances or alternatives to required permit conditions/limitations. This includes, but is not limited to: waivers from testing requirements; variances from technology guidelines or water quality standards; WER/translator study consideration; variances from standard permit limits/conditions.

No variances were given during this permit reissuance.

SUITABLE DATA: In what, if any, effluent data were considered in the establishment of effluent limitations and provide all appropriate information/calculations.

All suitable effluent data were reviewed.

ANTIDEGRADATION REVIEW: Provide all appropriate information/calculations for the antidegradation review.

The receiving stream has been classified as tier 1; therefore, no further review is needed. Permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

ANTIBACKSLIDING REVIEW: Indicate if antibacksliding applies to this permit and, if so, provide all appropriate information.

There are no backsliding issues to address in this permit (i.e., limits as stringent or more stringent when compared to the previous permit).

SEE ATTACHMENT 6

20. **SPECIAL CONDITIONS RATIONALE**: Provide a rationale for each of the permit's special conditions.

SEE ATTACHMENT 7

21. **TOXICS MONITORING/TOXICS REDUCTION AND WET LIMIT SPECIAL CONDITIONS RATIONALE**: Provide the justification for any toxics monitoring program and/or toxics reduction program and WET limit; the actual conditions for the permit are to be included under Attachment 6.

SEE ATTACHMENT 8

22. **SLUDGE DISPOSAL PLAN**: Provide a description of the sludge disposal plan (e.g., type sludge, treatment provided and disposal method). Indicate if any of the plan elements are included within the permit.

Sludge from this facility is dewatered with centrifuges and then burned in HRSD incinerators, primarily at Boat Harbor STP. The primary back-up plan is to haul the sludge for composting to McGill Environmental Systems in Waverly, VA. The secondary back-up plan is to haul the sludge to the HRSD Atlantic Plant for land application.

SEE ATTACHMENT 6

23. **MATERIAL STORED**: List the type and quantity of wastes, fluids, or pollutants being stored at this facility. Briefly describe the storage facilities and list, if any, measures taken to prevent the stored material from reaching State waters.

The materials stored on site include sodium hypochlorite, sodium bisulfate, sodium hydroxide, ferric chloride, polymer, fuel oil, propane, ammonia, glycerol, methanol, struvite, gasoline and diesel fuel. The materials are either stored in buildings with drains connected to the treatment system or are in contained areas. Fuel tanks are double walled.

24. **RECEIVING WATERS INFORMATION**: Refer to the State Water Control Board's Water Quality Standards [e.g., River Basin Section Tables (9 VAC 25-260-5 et seq.). **Use 9 VAC 25-260-140 C (introduction and numbered paragraph) to address tidal waters where fresh water standards would be applied or transitional waters where the most stringent of fresh or salt water standards would be applied.** Attach any memoranda or other information which helped to develop permit conditions (i.e. tier determinations, PReP complaints, special water quality studies, STORET data and other biological and/or chemical data, etc.

SEE ATTACHMENT 9

25 **303(d) Listed Segments**: Indicate if the facility discharges to a segment that is listed on the current 303(d) list and, if so, provide all appropriate information/calculations.

This facility discharges directly to James River (Hampton Roads Harbor). This receiving stream segment has been listed in Category 5 of the 305(b)/303(d) list for non-attainment of 1) dissolved oxygen standard for open water - summer months, 2) fish consumption due to PCB in fish tissue 3) Chlorophyll-a.

EPA approved Nitrogen, Phosphorus and TSS TMDL for the Chesapeake Bay TMDL on December 29, 2010. This facility was listed under the Bay Segment JMSMH as a non-significant discharger and was not assigned an individual waste load allocation for the parameters listed above.

The permit contains water quality based limits for TSS and technology based limits for TP and TN.

26. **CHANGES TO PERMIT**: Use **TABLE III(a)** to record any changes from the previous permit and the rationale for those changes. Use **TABLE III(b)** to record any changes made to the permit during the permit processing period and the rationale for those changes [i.e., use for comments from the applicant, VDH, EPA, other agencies and/or the public where comments resulted in changes to the permit limitations or any other changes associated with the special conditions or reporting requirements].

SEE ATTACHMENT 10

27. **NPDES INDUSTRIAL PERMIT RATING WORKSHEET:**

TOTAL SCORE:

N/A - This is a municipal facility.

28. **DEQ PLANNING COMMENTS RECEIVED ON DRAFT PERMIT**: Document any comments received from DEQ planning.

The discharge is not addressed in any planning document but will be included when the plan is updated.

29. **PUBLIC PARTICIPATION:** Document comments/responses received during the public participation process. If comments/responses provided, especially if they result in changes to the permit, place in the attachment.

VDH/DSS COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the Virginia Dept. of Health and noted how resolved.

The VDH waived their right to comment and/or object the adequacy of the draft permit. Memo received 2/15/12

The DSS waived their right to comment and/or object the adequacy of the draft permit. Email received 3/12/12.

EPA COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the U.S. Environmental Protection Agency and noted how resolved.

EPA has no objections to the adequacy of the draft permit. Email received 4/19/12.

ADJACENT STATE COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from an adjacent state and noted how resolved.

Not Applicable.

OTHER AGENCY COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from any other agencies (e.g., VIMS, VMRC, DGIF, etc.) and noted how resolved.

Not Applicable.

OTHER COMMENTS RECEIVED FROM RIPARIAN OWNERS/CITIZENS ON DRAFT PERMIT: Document any comments received from other sources and note how resolved.

The application and draft permit have received public notice in accordance with the VPDES Permit Regulation, and no comments were received.

PUBLIC NOTICE INFORMATION: Comment Period: Start Date: 3/27/12
End Date: 4/26/12

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit within 30 days from the date of the first notice. Address all comments to the contact person listed below. Written or e-mail comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requestor's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Deanna Austin at: Department of Environmental Quality (DEQ), Tidewater Regional Office, 5636 Southern Boulevard, Virginia Beach, VA 23462. Telephone: 757-518-2008 E-mail:deanna.austin@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed reissuance. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

30. **ADDITIONAL FACT SHEET COMMENTS/PERTINENT INFORMATION:**

ATTACHMENT 1

SITE INSPECTION REPORT/MEMORANDUM

Facility:	HRSD Nansemond STP
County/city:	Suffolk

VPDES NO:	VA0081299

DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART 1

Inspection date:	**March 31, 2010**	Date form completed:	**April 15, 2010**
Inspection by:	**Steven J.E. Long**	Inspection agency:	**DEQ/TRO**
Time spent:	**5 hours**	Announced Inspection:	[ ] Yes [x] No
Reviewed by: **Kenneth T. Raum**		Photographs taken at site?	[ ] Yes [x] No
Present at inspection:	**Bill Balzer Plant Manager, Larry Sparrow – Chief Operator**		

FACILITY TYPE:	FACILITY CLASS:
(x) Municipal	(x) Major
( ) Industrial	( ) Minor
( ) Federal	( ) Small
( ) VPA/NDC	( ) High Priority ( ) Low Priority

TYPE OF INSPECTION:

Routine	x	Reinspection		Compliance/assistance/complaint	

Date of previous inspection:	**2/28/07**	Agency:	**DEQ/TRO**

Population Served:	**~120,000**	Connections Served	**Varies**				
Last Month Average Influent: Feb. 2010	BOD 5 (mg/l) **195.**	TSS (mg/l) **154**	Flow (MGD) **19.39**	pH (s.u.) **7.1-7.3**			
	Other:						
Last Month Average Effluent: Feb. 2010	BOD 5 (mg/l) **9**	TSS (mg/l) **8.7**	Flow (MGD) **19.39**	pH (su) **6.9-7.3**			
	Other:						
Last Quarter Average Effluent:	BOD 5 (mg/l)	TSS (mg/l)	Flow (MGD)	pH (su)			
	Other: **s.u.**						

Data verified in preface:	Updated?		NO CHANGES?		√
Has there been any new construction?		YES	√	NO	
If yes, were the plans and specifications approved?		YES	√	NO	
DEQ approval date:	**CTC Issued: 10/10/08, Revised 8/28/09, Permit modified 12/22/09.**				

COPIES TO: (x) DEQ/TRO; (x) DEQ/OWPP; (x) OWNER; ( ) OPERATOR; ( ) EPA-Region III; ( ) Other:

PLANT OPERATION AND MAINTENANCE

1.	Class/number of licensed operators:	I	11	II	1	III	1	IV		Trainee			
2.	Hours per day plant manned?	24 hours											
3.	Describe adequacy of staffing	GOOD	√	AVERAGE		POOR							
4.	Does the plant have an established program for training personnel	YES	√	NO									
5.	Describe the adequacy of training	GOOD	√	AVERAGE		POOR							
6.	Are preventative maintenance tasks scheduled	YES	√	NO									
7.	Describe the adequacy of maintenance	GOOD	√	AVERAGE		POOR							
8.	Does the plant experience any organic/hydraulic overloading?	YES		NO	√								
	If yes, identify cause/impact on plant	na											
9.	Any bypassing since last inspection?	YES		NO	√								
10.	Is the standby electrical generator operational?	YES	√	NO		NA							
11.	How often is the standby generator exercised?	1/month											
	Power transfer switch?	1/month		ALARM SYSTEM?	weekly								
12.	When was the cross connection last tested on the potable supply?	June 2009											
13.	Is the STP alarm system operational?	YES	√	NO		NA							
14.	Is sludge disposed in accordance with an approved SMP	YES	√	NO		NA							
15.	Is septage received by the facility?	YES	√	NO									
	Is septage loading controlled?	YES	√	NO		NA							
	Are records maintained?	YES	√	NO		NA							

OVERALL APPEARANCE OF FACILITY	GOOD	√	AVERAGE		POOR	

COMMENTS:	**Facility is under construction with upgrades to various equipment including the addition of two new aeration chambers and eventual change for the BNR to anaerobic, anoxic and aerobic zones. The smaller aerations tanks (1-3) will also be changed to have aeration/anoxic zones.** **The gas turbine generators will also be exchanged for diesel generators.**

PLANT RECORDS

	WHICH OF THE FOLLOWING RECORDS DOES THE PLANT MAINTAIN?						
	Operational logs for each process unit	YES	√	NO		NA	
	Instrument maintenance and calibration	YES	√	NO		NA	
	Mechanical equipment maintenance	YES	√	NO		NA	
1.	Industrial waste contribution (municipal facilities)	YES	√	NO		NA	

	WHAT DOES THE OPERATIONAL LOG CONTAIN					
	Visual Observations	√	Flow Measurement	√	Laboratory Results	√
2.	Process Adjustments	√	Control Calculations	√	Other?	

COMMENTS:

	WHAT DO THE MECHANICAL EQUIPMENT RECORDS CONTAIN?					NA
	MFG. Instructions	√	As Built Plans/specs	√	Spare Parts Inventory	√
3.	Lube Schedules	√	Other?		Equipment/parts Suppliers	√

COMMENTS:

	WHAT DO INDUSTRIAL WASTE CONTRIBUTION RECORDS CONTAIN? (MUNICIPAL)			NA
	Waste Characteristics	√	Impact on Plant	√
4.	Location and Discharge Types	√	Other?	

COMMENTS: **Pre-treatment and Industrial program records at main office.**

	WHICH OF THE FOLLOWING RECORDS ARE AT THE PLANT & AVAILABLE TO PERSONNEL?					NA
	Equipment Maintenance Records	√	Industrial Contributor Records			
5.	Operational Log	√	Sampling/testing Records	√	Instrumentation Records	√

6.	Records not normally available to personnel at their location:	**Pre-treatment/Industrial records at main office.**

7.	Were the records reviewed during the inspection	YES	√	NO	
8.	Are records adequate and the O&M manual current?	YES	√	NO	
9.	Are the records maintained for the required 3-year time period	YES	√	NO	

COMMENTS: **Most records maintained electronically.**

SAMPLING

1.	Are sampling locations capable of providing representative samples?					YES	√	NO		
2.	Do sample types correspond to VPDES permit requirements?					YES	√	NO		
3.	Do sampling frequencies correspond to VPDES permit requirements?					YES	√	NO		
4.	Does plant maintain required records of sampling?					YES	√	NO		
5.	Are composite samples collected in proportion to flow?	YES	√	NO		NA				
6.	Are composite samples refrigerated during collection?	YES	√	NO		NA				
7.	Does the plant run operational control tests?	YES	√	NO		NA				

COMMENTS:

TESTING

	Who performs the testing?	Plant	√	Central Lab	√	Commercial Lab	
1.	Name:						

IF THE PLANT PERFORMS ANY TESTING, PLEASE COMPLETE QUESTIONS 2-4

2.	Which total residual chlorine method is used?	**Hach Pocket Colorimeter**					
3.	Does plant appear to have sufficient equipment to perform required tests?	YES	√	NO			
4.	Does testing equipment appear to be clean and/or operable?	YES	√	NO			

COMMENTS:

FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY

1.	Is the production process as described in permit application? If no, describe changes in comments section.	YES		NO		NA	√
2.	Are products/production rates as described in the permit application? If no list differences in comments section.	YES		NO		NA	√
3.	Has the Agency been notified of the changes and their impact on plant effluent? Date agency notified:	YES		NO		NA	√

COMMENTS:

	PROBLEMS IDENTIFIED AT LAST INSPECTION:	CORRECTED	NOT CORRECTED
	No problems noted.		

SUMMARY

	INSPECTION COMMENTS:
	Significant upgrades to the facility noted with additional treatment units added. A Regional Residual Facility has opened at this site for handling of grit and grease cleaned out of regional pump stations and pipes. Other upgrades include the installation of a Struvite Recovery Facility and the installation of a supplemental carbon facility. Struvite recovery uses the centrifuge centrate for enhancing the removal of phosphorous from that waste stream. Struvite a phosphorous containing compound is crystallized and then can be used in agricultural applications. Supplemental carbon is required for the for de-nitrification process of the BNR.

	COMPLIANCE RECOMMENDATIONS FOR ACTION

UNIT PROCESS:	Screenings/Comminution

			YES	NO	NA
1.	Number of manual units	1			
2.	Number of mechanical units	3			
3.	Number manual units in operation	0			
4.	Number of mechanical units in operation	3			
5.	Bypass channel provided		√		
	Bypass channel in use			√	
6.	Area adequately ventilated		√		
7.	Alarm system for equipment failure and/or overloads		√		
8.	Proper flow distribution between units				√
9.	How often are units checked and cleaned	**cleaned automatically, checked periodically**			
10.	Cycle of operation	**5 minutes on, 10 minutes off.**			
11.	Volume of screenings removed, average	**20 ft^3/day, Feb. 2010**			

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	

UNIT PROCESS:	Grit Removal

			YES	NO	NA
1.	Number of units (Grit Chambers)	2			
2.	Number units in operation	1			
3.	Operation of grit collection equipment:				
	Manual				
	Time Clock	√			
	Continuous Duty				
4.	Area adequately ventilated		√		
5.	Proper flow distribution between units				√
6.	Daily volume of grit removed	**16 ft^3/day, Feb. 2010**			
7.	All equipment operable		√		

GENERAL CONDITION:	GOOD		FAIR	x	POOR	

COMMENTS:	**Pumps from chambers send grit to cyclones (4), with typically one cyclone in operation at a time. The cyclones discharges are sent to 2 vortex grit tanks with the grit from these units loaded into roll off container for disposal. The #1 Vortex Grit tank was in use.**

UNIT PROCESS:	Sedimentation

	PRIMARY	√	SECONDARY		TERTIARY			YES	NO	NA
1.	Number of units				4					
2.	Number units in operation				2 (Circular Units) 2 (Rectangular Units)					
3.	Proper flow distribution between units									√
4.	Sludge collection system working properly?									√
5.	Signs of short circuiting and/or overloads									√
6.	Effluent weirs level									√
7.	Effluent weirs clean									√
8.	Scum collection system working properly									√
9.	Influent/effluent baffle system working properly									√
10.	Chemical Used					Chemical Addition				√
11.	Effluent characteristics		Units are enclosed.							

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	Scum collected and sent to solids handling. Primary clarifier #2 (rectangular) was not in service during this site visit. Units enclosed and can not be observed.

UNIT PROCESS:	Sludge Pumping

									YES	NO	NA
1.	Number of pumps				4 for circular basins 4 for square basins						
2.	Number pumps in operation				1						
3.	TYPE OF SLUDGE PUMPED:										
	Primary	x	Waste Activated			Other:					
	Secondary		Return Activated			Combination					
4.	TYPE OF PUMP:	Plunger		Diaphragm							
	Centrifugal:		Screwlift		Prog. Cavity	√	Other:				
5.	MODE OF OPERATION:	Manual		Automatic	√	Other:					
6.	Sludge volume pumped:	0.353 MGD Primary Bio-solids, Feb. 2010									
7.	Alarm system for equipment failures/overloads operational?								x		

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	

UNIT PROCESS:	Anaerobic/Anoxic Tanks

										YES	NO	NA
1.	Type system:	In-line, Parallel	√	Side-line		Spill Pond						
2.	Number cells:	**7 Trains**										
3.	What unit process does this unit precede?	**Activated Sludge Aeration**										
4.	Is volume adequate:									√		
5.	Mixing?	None		Diffused Air		Fixed Mechanical	√					
	Floating Mechanical			Other								
6.	Condition of mixing equipment	GOOD	√	AVERAGE		POOR						
7.	*HOW DRAWN OFF?*											
	Pumped from?	Surface		Sub-surface		Adjustable						
	Weir?	Surface	√	Sub-surface								
8.	Is containment structure in good condition?											√

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	**Three trains in operation. Used for nutrient removal. Anoxic zone provides for de-nitrification with nitrate concentration typically at 0.2 mg/L. De-nitrification must occur prior to phosphorous removal. Anaerobic zone provides for phosphorous uptake. Phosphorous removal occurs in activated sludge aeration when solids are wasted.** **Each train has 6 separate stages previously used as anoxic/anaerobic zones. Upcoming changes will include an anaerobic/anoxic/aerobic zones.**

UNIT PROCESS:	Activated Sludge

			YES	NO	NA
1.	Number of aeration units	5 (2 large, 3 small)			
2.	Number units in operation	All 3 small units, 1 Large (#5)			
3.	Mode of operation:	Conventional			
4.	Proper flow distribution between units		√		
5.	Foam control operational		√		
6.	Scum control present		√		
7.	Dead spots			√	
8.	Excessive foam			√	
9.	Poor aeration			√	
10.	Excessive scum			√	
11.	Aeration equipment malfunction			√	
12.	Other problem(s):				√
13.	Effluent control devices working properly (OXIDATION DITCHES)				√

14. *MIXED LIQUOR CHARACTERISTICS AS AVAILABLE:* Feb. 2010

pH (s.u.)	**7.1**	MLSS (mg/l)	**6143**	DO (mg/l)		SVI	**88**
Odor	**Nothing noted**	30 min. Settleability (ml/l)		**191**		SDI	
Color							

15. *RETURN/WASTE SLUDGE RATES:*

Return Rate	**68%, 14.19 MGD**	Waste Rate		Waste Frequency	**Continuous**

16. *AERATION SYSTEM CONTROL:*

Time Clock		Manual Feed		Continuous Feed	√
Other:					

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	

UNIT PROCESS:	Sedimentation

	PRIMARY		SECONDARY	√	TERTIARY			YES	NO	NA
1.	Number of units				2 large, 3 small					
2.	Number units in operation				All small units, 1 large (#5 offline)					
3.	Proper flow distribution between units							√		
4.	Sludge collection system working properly?							√		
5.	Signs of short circuiting and/or overloads								√	
6.	Effluent weirs level							√		
7.	Effluent weirs clean							√		
8.	Scum collection system working properly							√		
9.	Influent/effluent baffle system working properly							√		
10.	Chemical Used					Chemical Addition			√	
11.	Effluent characteristics									

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	Smaller units have been re-engineered changing from center collection of the bio-solids to collection along the length of the rotating arms.

UNIT PROCESS	Sludge Pumping

									YES	NO	NA
1.	Number of pumps				6						
2.	Number pumps in operation				2						
3.	TYPE OF SLUDGE PUMPED:										
	Primary		Waste Activated		√	Other:					
	Secondary		Return Activated		√	Combination					
4.	TYPE OF PUMP:	Plunger		Diaphragm							
	Centrifugal:	x	Screwlift		Prog. Cavity		Other:				
5.	MODE OF OPERATION:	Manual	RAS	Automatic	WAS	Other:					
6.	Sludge volume pumped:	Return Activated Sludge: 14.19 MGD Waste Activated Sludge: 0.543 MGD									
7.	Alarm system for equipment failures/overloads operational?								√		

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	

UNIT PROCESS:	Chlorination

			YES	NO	NA
1.	Number of chlorination pumps?	5			
2.	Number pumps in operation? (Pumps rotate)	1			
3.	Number of hypochlorite tanks?	4			
4.	Number chlorine contact tanks	4			
5.	Number chlorine contact tanks in operation	2			
6.	Proper flow distribution between units?		√		
	HOW IS CHLORINE INTRODUCED INTO THE WASTE STREAM?				
7.	Perforated Diffuser √ / Injector w/single entry point / Tablet Feeder				
8.	Chlorine residual in contact basin effluent (mg/l)	**2.02 @ 1242, 3/31/10**			
9.	Applied chlorine dosage (lbs/day)	**861 average, 2/2010**			
10.	Contact basin adequately baffled?		√		
11.	Adequate ventilation in chlorine cylinder storage area?		√		
12.	Adequate ventilation in chlorine equipment room?				√
13.	Proper safety precautions used?				√

GENERAL CONDITION:	GOOD	√	FAIR		POOR	
COMMENTS:						

UNIT PROCESS:	FLOW MEASUREMENT

INFLUENT | INTERMEDIATE | EFFLUENT √

			YES	NO	NA
1.	Type of measuring device	**Parshall Flume/Ultrasonic Recorder**			
2.	Average reading?	**19.4 MGD, Feb. 2010**			
3.	Bypass channel			√	
4.	Bypass channel metered?				√
	Return flow discharged upstream of the meter?		√		
5.	Identify:	**Varies**			
6.	Device operating properly?		√		
7.	Date of last calibration?	2/26/10 Calibration range: 0-66.84 MGD			
	EVIDENCE OF THE FOLLOWING PROBLEMS				
	Obstruction?			√	
8.	Grease?			√	

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	

UNIT PROCESS:	Dechlorination

									YES	NO	NA
	Dechlorination chemical used?										
1.	Sulfur Dioxide		Bisulfite	√	Other:						
2.	Number of pumps?				2						
3.	Number pumps in operation				1						
4.	Number of tanks?				4						
5.	Number contact tanks				1						
6.	Number contact tanks in operation				1						
7.	Proper flow distribution between units?										√
	HOW IS CHEMICAL INTRODUCED INTO THE WASTE STREAM?										
8.	Perforated Diffuser	x	Injector w/single entry point			Tablet Feeder					
9.	Chlorine residual in basin effluent				**<0.1 mg/l @ 1305, 3/31/10**						
10.	Applied dechlorination dosage? **lbs/day**				**454 average, Feb. 2010**						
11.	Control system operational?								√		
12.	Control system adjusted?	Automatic	x	Manual		Other:					
13.	Residual analyzer?								√		
14.	Contact basin adequately baffled?								√		
15.	Adequate ventilation in cylinder storage area?								√		
16.	Adequate ventilation in equipment room?								√		
17.	Proper safety precautions used?								√		

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	

UNIT PROCESS:	Emergency Pond

										YES	NO	NA
1.	Type	Aerated		Unaerated	x	Polishing						
2.	Number of cells	1										
3.	Number cells in operation	0										
	Operation of system											
4.	Series		Parallel		Other:							√
	Color				Light Brown							√
5.	Gray		Brown		Green		Other:					
	EVIDENCE OF THE FOLLOWING PROBLEMS:											
	Vegetation in lagoon or dikes?									√		
	Rodents burrowing on dikes?										√	
	Erosion?										√	
	Sludge bars?										√	
	Excessive foam?										√	
6.	Floating material?										√	
7.	If aerated, are lagoon contents mixed adequately?											√
8.	If aerated, is aeration system operating properly?											√
9.	Odors:	Septic				None		Other:				√
10.	Fencing intact?									√		
11.	Grass maintained properly?									√		
12.	Level control valves working properly?									√		
13.	Effluent discharge elevation?	Top		Middle		Bottom	x					
14.	Freeboard	**pond is empty**										
15.	Appearance of effluent?	GOOD		FAIR		POOR						√
	Are monitoring wells present?									√		
	Are wells adequately protected from runoff?									√		
16.	Are caps on and secured?									√		
GENERAL CONDITION:	GOOD	√	FAIR		POOR							

COMMENTS:	**The pond is grass lined, no other vegetation noted. The pond was reported to have been used Monday and Tuesday, 3/29-30/10 to hold fully treated final effluent to equalize the final effluent flow and avoid using effluent pumps.**

UNIT PROCESS:	Gravity Belt Thickener

									YES	NO	NA
1.	Number of units				3						
2.	Number units in operation				1						
3.	Type of sludge treated:					Combination					
	Primary	√	Waste Activated	√		Other:					
4.	Sludge fed how?		Continuous		√	Intermittent					
5.	Solids concentration in the influent sludge					~3-4%					
	Solids concentration in the thickened sludge					5.5% Feb. 2010					
6.	Signs of short-circuiting and/or overloading?									√	
7.	Effluent weirs level?										√
8.	Sludge collection system working properly?								√		
9.	Influent/effluent baffle systems working properly?								√		
10.	Chemical addition?								√		
	Chemical used?		C-6267		Dosage?	13 lbs/ton average Feb. 2010					

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	

UNIT PROCESS:	Anaerobic Digestion

		YES	NO	NA
1.	Number of units: 2			
2.	Number units in operation: 2			
3.	TYPE OF SLUDGE TREATED: Primary √ / Waste Activated / Other:			
4.	TYPE OF DIGESTER: Primary: / Standard Rate / High Rate √ / Secondary			
5.	Frequency of sludge application to digester(s): Continuous			
6.	pH Adjustment provided?		√	
7.	pH adjustment utilized?			√
8.	Number of recirculation pumps: 2			
9.	Number recirculation pumps in operation: 2			
10.	LOCATION OF SUPERNATANT RETURN: Head / Primary / Recycle to Digester for complete mix √			
11.	Supernatant return rate: undetermined			
12.	PROCESS CONTROL TESTING: **Feb. 2010**			
	pH (s.u.): 6.8			
	Volatile Acids (mg/l): 96			
	Alkalinity (mg/l): 2675			
	Volatile Solids Reduction (%): 9			
	Temperature (°F): 97			
13.	Sludge retention time? (Days): 10			
14.	Gas production rate? 90,100 ft^3/day.			
15.	Signs of overloading?		√	

GENERAL CONDITION:	GOOD		FAIR	√	POOR	

COMMENTS:	**Volatile acids to alkalinity ratio average 0.036. Foaming observed on the digester roofs.**

UNIT PROCESS:	Centrifugation

									YES	NO	NA
1.	Number of units				3						
2.	Number units in operation				1						
3.	*PURPOSE OF CENTRIFUGE*										
	Thickening		Dewatering	√	Other:						
4.	*OPERATION OF EQUIPMENT*										
	Manual		Automatic	√	Other:						
5.	Centrifuge run time				11.8 hours Feb. 2010						
6.	Volume of influent sludge flow: (gal/min)				120						
7.	Amount of cake produced: (lbs/day)				26,200 lbs/day Ave. Feb. 2010						
8.	*SLUDGE SOLIDS*										
	Influent (%)	3.36	Effluent (%)		22.1						
9.	Conditioning chemical fed:				SE 746						
10.	Conditioning chemical dose:				33 lbs/ton						
11.	Centrate return location:				head of plant						
12.	Signs of centrate return problems?									√	

GENERAL CONDITION:	GOOD	√	FAIR		POOR	

COMMENTS:	

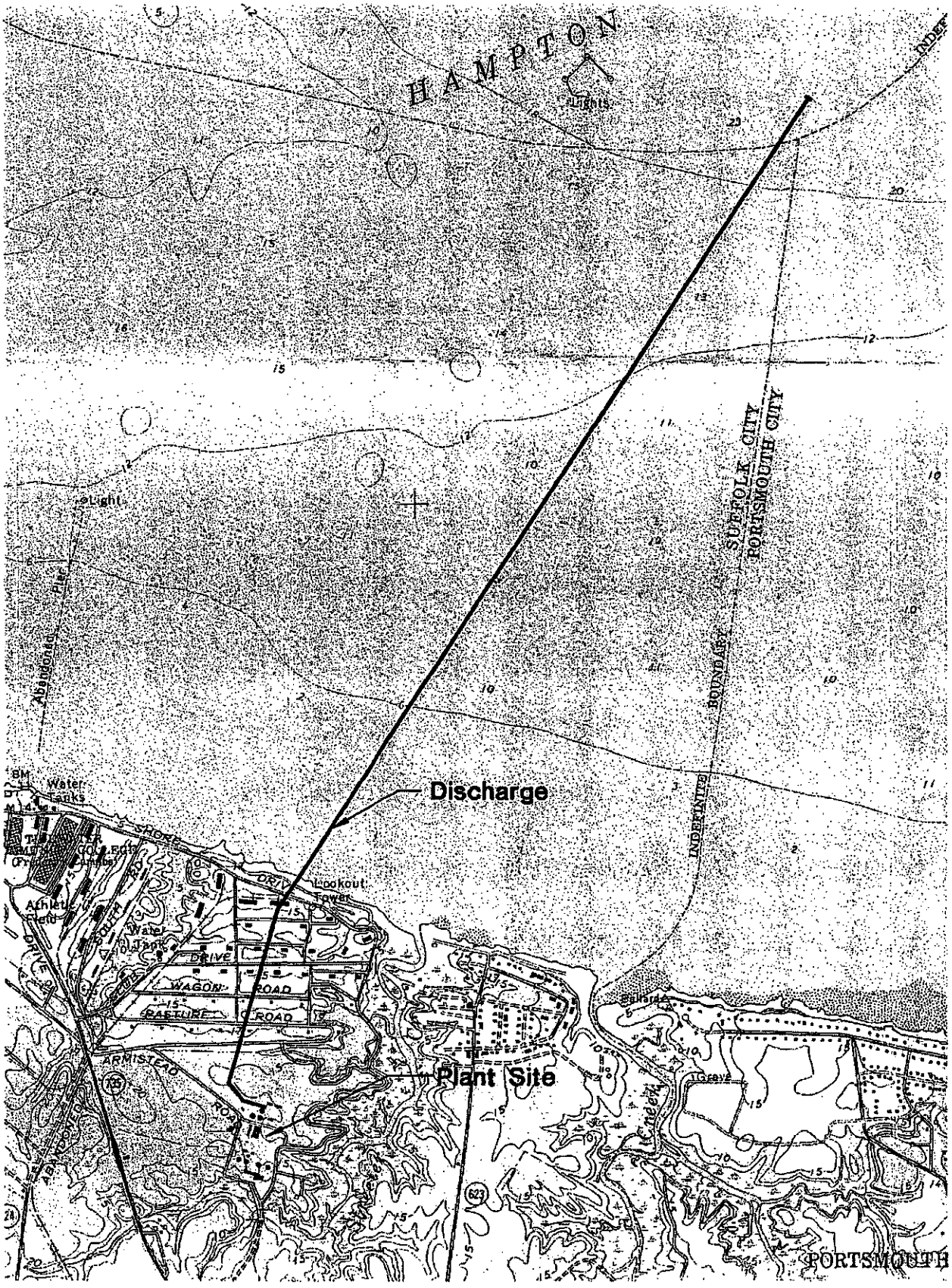
UNIT PROCESS:	Effluent/Plant Outfall

									YES	NO	NA
1.	Type of outfall		Shore Based		Submerged	√					
	TYPE IF SHORE BASED:										
2.	Wingwall		Headwall		Rip Rap		Pipe				
3.	Flapper valve present?										√
4.	Erosion of bank area?										√
5.	Effluent plume visible?										√
6.	Condition of outfall and the supporting structure? **Submerged Outfall, not viewable.**										
	GOOD		FAIR		POOR						
	FINAL EFFLUENT, EVIDENCE OF FOLLOWING PROBLEMS?										
	Oil sheen?									√	
	Grease?									√	
	Sludge bar?									√	
	Turbid effluent?									√	
	Visible foam?									√	
7.	Unusual color?									√	

COMMENTS:	**Submerged Outfall, not viewable.**

ATTACHMENT 2

DISCHARGE LOCATION/TOPOGRAPHIC MAP



Location Map
for
Nansemond TP

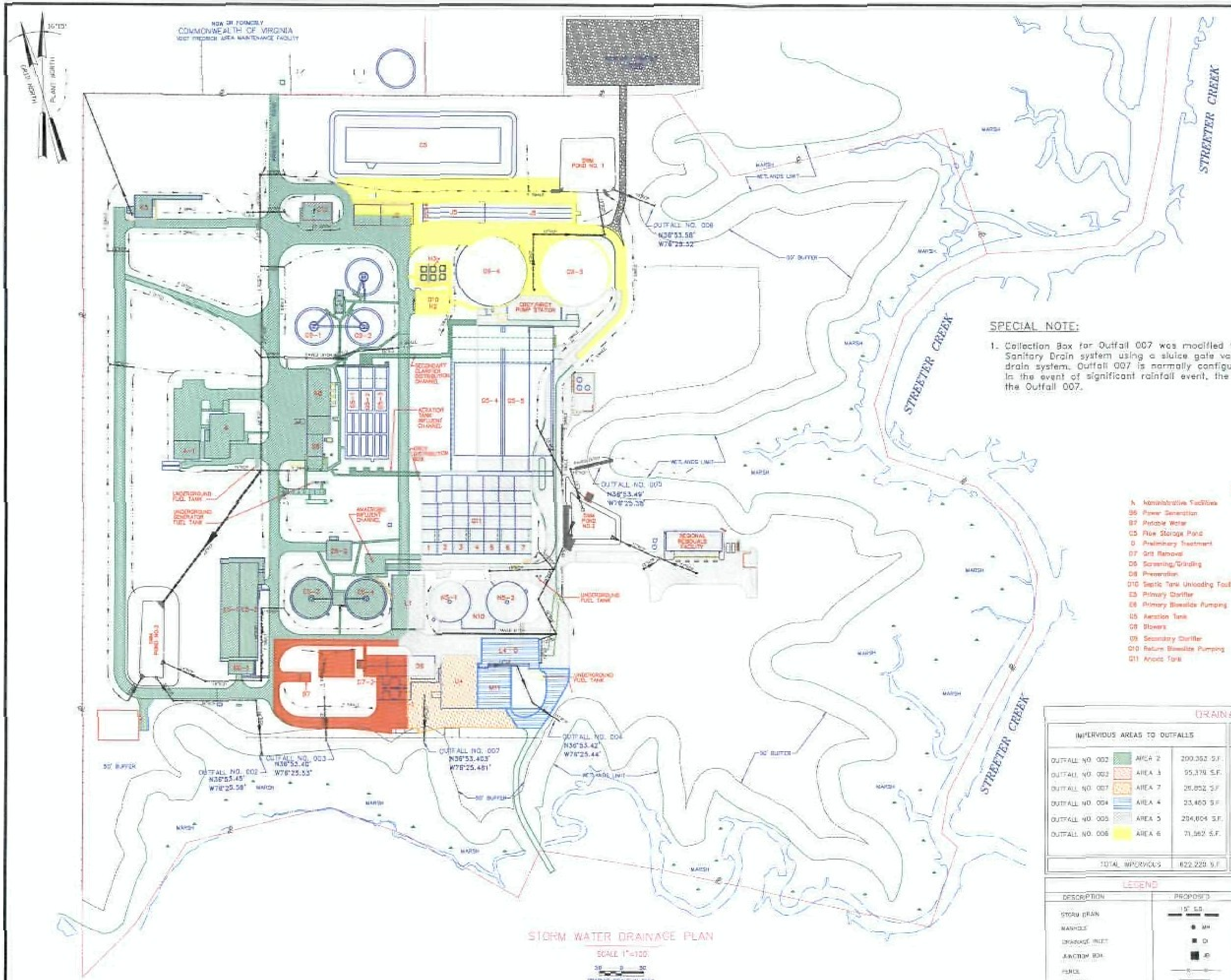
June 2003 **Scale: 1"=2000'** **USGS Map Reference**

ATTACHMENT 3

SCHEMATIC/PLANS & SPECS/SITE MAP/ WATER BALANCE

ATTACHMENT 4

TABLE I - DISCHARGE/OUTFALL DESCRIPTION



SPECIAL NOTE:

1. Collection Box for Outfall 007 was modified to allow diversion of drainage area to plant Sanitary Drain system using a sluice gate valve and a cross connection to the sanitary drain system. Outfall 007 is normally configured to discharge into the Sanitary Drain system. In the event of significant rainfall event, the outfall will be reconfigured to discharge to the Outfall 007.

KEY

A	Administrative Facilities	H2	Phosphorus Removal Chemical Feeding
B6	Power Generation	H3	Phosphorus Removal Chemical Storage
B7	Potable Water	G11	Anoxic Tank
C5	Flow Storage Pond	J2	Disinfection Chemical Feeding
D	Preliminary Treatment	J5	Disinfection Contact Tank
D7	Grit Removal	K5	Final Effluent Pumping
D6	Screening/Grinding	L4	Scum Disposal
D8	Preaeration	M11	Gravity Belt Thickening
D10	Septic Tank Unloading Facility	N5	Biosolids Anaerobic Digester
E5	Primary Clarifier	N10	Digester Recirculation Biosolids Pumping
E6	Primary Biosolids Pumping	Q	Solids Dewatering
G5	Aeration Tank	U1	Odor Control
G8	Blowers	U4	Odor Control Chemical
G9	Secondary Clarifier		
G10	Return Biosolids Pumping		
G11	Anoxic Tank		

DRAINAGE AREA SUMMARY

IMPERVIOUS AREAS TO OUTFALLS			PERVIOUS AREAS TO OUTFALLS		COMBINED FLOWS TO OUTFALLS (IMPERVIOUS + PERVIOUS AREAS)
OUTFALL NO. 002	AREA 2	200,362 S.F.	AREA 2	710,404 S.F.	910,767 S.F.
OUTFALL NO. 003	AREA 3	55,379 S.F.	AREA 3	29,062 S.F.	134,441 S.F.
OUTFALL NO. 007	AREA 7	26,852 S.F.	AREA 7	0 S.F.	26,852 S.F.
OUTFALL NO. 004	AREA 4	23,460 S.F.	AREA 4	7,340 S.F.	30,800 S.F.
OUTFALL NO. 005	AREA 5	204,604 S.F.	AREA 5	68,984 S.F.	273,588 S.F.
OUTFALL NO. 006	AREA 6	71,562 S.F.	AREA 6	260,393 S.F.	331,955 S.F.
			ALL OTHER	1,839,453 S.F.	
	TOTAL IMPERVIOUS	822,229 S.F.	TOTAL PERVIOUS	1,000,163 S.F.	TOTAL COMBINED 1,708,403 S.F.

LEGEND

DESCRIPTION	PROPOSED
STORM DRAIN	15" SD
MANHOLE	MH
DRAINAGE INLET	DI
JUNCTION BOX	JB
FENCE	
BUILDING	
DRAINAGE CHANNEL/DITCH	

HAMPTON ROADS SANITATION DISTRICT

NANSEMOND TREATMENT PLANT
STORM WATER DRAINAGE
SITE PLAN

DESIGNED BY:		DATE JANUARY, 1999	
DRAWN BY:	B.K.M.	REVISED JANUARY, 2012	
CHECKED BY:		DRAWING NO.: 1 OF 1	
SCALE: 1"=100'			

TABLE I

NUMBER AND DESCRIPTION OF OUTFALLS

OUTFALL NO.	DISCHARGE LOCATION	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001	365600N/0762344W 2-JMS006.98	Publicly Owned Treatment works	Secondary with enhanced nutrient removal including bar screen, grit removal, primary clarification, anaerobic/anoxic/aerobic units, secondary clarification, chlorination and dechlorination.	30 MGD
002	365345N/0762558W	Stormwater	Retention Basin	0.043 MG
003	365340N/0762553W	Stormwater	Retention Basin	0.003 MG
004	365342N/0762544W	Stormwater	Retention Basin	0.005 MG
005	365349N/0762538W	Stormwater	Retention Basin	0.018 MG
006	365358N/0762532W	Stormwater	Retention Basin	0.017 MG
007	365340N/0762548W	Stormwater	Retention Basin	0.002 MG

(1) List operations contributing to flow
(2) Give brief description, unit by unit
(3) Give maximum 30-day average flow for industry and design flow for municipal

Stormwater flows based on calculation for an annual average rainfall of 48.86" with runoff coefficients of 0.9 for impervious surface and 0.5 for pervious surface. See stormwater flow calculation sheet attached.

Nansemond River STP Stormwater Outfall Flow Calculations

Annual average rainfall for the Portsmouth Weather Station 1976-2006 48.86" Over a year period it is an average of 0.134" day....Converted to feet
0.011 feet of rainfall

Runoff Coefficients of **0.5** for pervious surfaces and **0.9** for impervious surfaces were obtained from "Design and Construction of Sanitary and Storm Sewers"

Outfall 002 175,050 sq ft impervious surface x 0.9 = 157,545
737,717 sq ft pervious surface X 0.5 = 368,858.5
Total Area = 526,403.5
Total Runoff Volume 0.011 ft rain X 526,403.5 = 5790.43 cu ft x 7.48e-6 = **0.043 MGD**

Outfall 003 22,949 sq ft impervious surface x 0.9 = 20,654.1
34,586 sq ft pervious surface X 0.5 = 17,293
Total Area = 37,947.1
Total Runoff Volume 0.011 ft rain X 37947.1 = 417.42 cu ft x 7.48e-6 = **0.003 MGD**

Outfall 004 55,346 sq ft impervious surface x 0.9 = 49,811.4
16,139 sq ft pervious surface X 0.5 = 8069.5
Total Area = 57,880.9
Total Runoff Volume 0.011 ft rain X 57,880.9 = 636.69 cu ft x 7.48e-6 = **0.005 MGD**

Outfall 005 206,641 sq ft impervious surface x 0.9 = 185,976.9
66,977 sq ft pervious surface X 0.5 = 33488.5
Total Area = 219,465.4
Total Runoff Volume 0.011 ft rain X 219,465.4 = 2414.12 cu ft x 7.48e-6 = **0.018 MGD**

Outfall 006 94,976 sq ft impervious surface x 0.9 = 85,478.4
236,969 sq ft pervious surface X 0.5 = 118,484.5
Total Area = 203,962.9
Total Runoff Volume 0.011 ft rain X 203,962.9 = 2243.59 cu ft x 7.48e-6 = **0.017 MGD**

Outfall 007 26,852 sq ft impervious surface x 0.9 = 24,167
0 sq ft pervious surface X 0.5 = 0
Total Area = 24,167
Total Runoff Volume 0.011 ft rain X 24,167 = 265.8 cu ft x 7.48e-6 = **0.002 MGD**

Total for all 6 outfalls = 0.088 MGD

ATTACHMENT 5

TABLE II - EFFLUENT MONITORING/LIMITATIONS

TABLE II - MUNICIPAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001 DESIGN FLOW: 30 MGD

Outfall Description: Municipal Discharge

SIC CODE: 4952

(X) Final Limits ( ) Interim Limits Effective Dates - From: Reissuance To: Expiration

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD) [a]	3		NL	NA	NA	NL	Cont.	TI & RE*
PH (S.U.)	1		NA	NA	6.0	9.0	1/Day	Grab
BOD5 (mg/l) [c] [d]	1		30	45	NA	NA	3/Week	24 HC
BOD5 (kg/d) [d]	1	30	3406	5110	NA	NA	3/Week	24 HC
TSS (mg/l) [c] [d]	1		30	45	NA	NA	3/Week	24 HC
TSS (kg/d) [d]	1	30	3406	5110	NA	NA	3/Week	24 HC
TRC (mg/l) [b] [c]	2		0.20	2.4	NA	NA	1/Day	Grab
Total Phosphorus (mg/l)	3		NL	NA	NA	NA	1/Month	24 HC
Total Phosphorus (mg/l) Year to date [f]	3		NL	NA	NA	NA	1/Month	Calc
Total Phosphorus (mg/l) Calendar Year [e] [f]	3		2.0	NA	NA	NA	1/Year	Calc
Total Nitrogen (mg/l)	3		NL	NA	NA	NA	1/Month	24 HC
Total Nitrogen (mg/l) Year to date [f]	3		NL	NA	NA	NA	1/Month	Calc
Total Nitrogen(mg/l) Calendar Year [e] [f]	3		8.0	NA	NA	NA	1/Year	Calc

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Fecal Coliform (n/cml) [d] [g]	2		200	NA	NA	NA	1/Week (Between 10 am & 4 pm)	Grab
Enterococci (n/cml) [h]	2		35	NA	NA	NA	2/Month (Between 10 am & 4 pm)	Grab

*Totalizing, Indicating & Recording Equipment

NA = Not Applicable. NL = No limitation, however, reporting is required.
1 Year= January 1-December 31; reported for each full calendar year

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

In addition to any Total Nitrogen or Total Phosphorus concentration limits listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN040090, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.

[a] The design flow of this treatment facility is 30 MGD. See Part I.C.5 for additional flow requirements.
[b] See Part I.B. for additional chlorine monitoring instructions.
[c] See Parts I.C.6 and I.C.7 for quantification levels and reporting requirements, respectively.
[d] See Part I.C.8 for additional instructions regarding effluent monitoring frequencies.
[e] Annual average limitation, based on a calculation of all samples collected during the calendar year.
[f] See Part I.C.10.for additional instructions regarding Total Phosphorus and Total Nitrogen.
[g] Fecal Coliform monthly average is calculated as a geometric mean.
[h] Enterococci monthly average is calculated as a geometric mean. Samples must be taken at least 7 days apart.

2. There shall be no discharge of floating solids or visible foam in other than trace amounts.
3. At least 85% removal for BOD and TSS must be attained for this effluent.

The basis for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - STORM WATER EFFLUENT LIMITATIONS/MONITORING

OUTFALLS #002 - 007
Outfall Description: Stormwater Not Associated With Regulated Industrial Activity
SIC CODE: 4952

THESE OUTFALLS SHALL CONTAIN STORM WATER RUNOFF NOT ASSOCIATED WITH A REGULATED INDUSTRIAL ACTIVITY WHERE NO MONITORING IS REQUIRED. THERE SHALL BE NO DISCHARGE OF PROCESS WASTEWATER FROM THESE OUTFALLS.

No exposure status has been given to these outfalls.

TABLE II - MUNICIPAL SLUDGE LIMITATIONS/MONITORING

OUTFALL # SP1 . DESIGN FLOW: 30 MGD
Outfall Description: Sludge from a Municipal Discharge
SIC CODE: 4952

a. Annual Sludge Production Data
Report annual total amount of sludge produced, in dry metric tons, including units and annual amount of sludge used or disposed in various methods (if applicable).

b. Chemical Pollutant Limitations

(X) Final Limits Effective Dates - From: Permit Issuance To: Expiration

PARAMETER & UNITS	MONITORING REQUIREMENTS			
	MONTHLY AVERAGE MG/KG*	CEILING CONCENTRATION MAXIMUM MG/KG*	FREQUENCY	SAMPLE TYPE
Solids Total, Sludge As Percent (%)	NL	NA	1/Application	Composite
Total Kjeldahl Nitrogen (mg/kg)	NA	NL	1/Application	Composite
Ammonia Nitrogen (mg/kg)	NA	NL	1/Application	Composite
Nitrate Nitrogen (mg/kg)	NA	NL	1/Application	Composite
Total Phosphorus (mg/kg)	NA	NL	1/Application	Composite
Total Potassium (mg/kg)	NA	NL	1/Application	Composite
Alkalinity as $CaCO_3$ (%)	NL**	NA	1/Application	Composite
Arsenic (mg/kg)	41	75	1/Application	Composite
Cadmium (mg/kg)	39	85	1/Application	Composite
Copper (mg/kg)	1,500	4,300	1/Application	Composite
Lead (mg/kg)	300	840	1/Application	Composite
Mercury (mg/kg)	17	57	1/Application	Composite
Molybdenum (mg/kg)	NA	75	1/Application	Composite
Nickel (mg/kg)	420	420	1/Application	Composite
Selenium (mg/kg)	100	100	1/Application	Composite
Zinc (mg/kg)	2800	7,500	1/Application	Composite
pH (Std Units @ 25° C)	NA	NL	1/Application	Composite

PARAMETER & UNITS	MONITORING REQUIREMENTS			
	MONTHLY AVERAGE MG/KG*	CEILING CONCENTRATION MAXIMUM MG/KG*	FREQUENCY	SAMPLE TYPE
Plant Available Nitrogen (Lbs/DT)	NA	NL	1/Application	Composite

NL = No limitation, monitoring required
NA = Not Applicable
* = Dry weight basis, unless otherwise stated.
** = Lime treated sludge (10% or more CaCO3 by dry weight) should be analyzed for percent Calcium Carbonate Equivalence (CCE).

c. Pathogen Reduction Limitations (Identify the chosen class/alternative(s) in accordance with the approved SMP (may be more than one), specify the applicable monitoring/operation parameters.)

For example: Class B, Alternative 1, fecal coliform less than either 2,000,000 MPN/g or 2,000,000 CFU/g; or Class B, Alternative 2, anaerobic digestion – Sewage sludge shall be treated in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35 to 55 degrees Celsius and 60 days at 200 degrees Celsius.

d. Vector Attraction Reduction Limitations: The permittee shall comply with one of the applicable vector attraction reduction alternatives specified in 9 VAC 25-31-720 B.

e. All samples shall be collected and analyzed in accordance with the approved O & M Manual.

TABLE II - MUNICIPAL MINOR EFFLUENT LIMITATIONS
Attachment 5 continued

Final Chlorine Limitations Effective Dates - From: Permit Issuance To: Permit Expiration

TRC **	AFTER CL2 CONTACT TANK (Dechlor. Required)			AFTER DECHLORINATION		AFTER CL2 CONTACT TANK (Dechlor. Not Required)				
	MIN.	EXC.	INST. MIN.	WKLY AVG.	INST. MAX.	PERMIT RANGE	EXC.	REPORT-ING RANGE	EXC.	TECH. MAX.
a) Non-Detect. Dechlor. Required	---	---	---	---	---	NA	NA	NA	NA	NA
b) Detect. Dechlor. Required	**1.5**	**36**	**0.6 mg/l***	**2.4 mg/l**	---	NA	NA	NA	NA	NA
c) No Dechlor.	NA	NA	NA	NA	NA	---	---	---	---	---

* Reporting is required when 3 or more consecutive readings are <0.6 mg/l or when the TRC is <0.1 mg/l.

** --Chlorine mass balance Cw (W for Tidal systems): check one

____a) $C_w < 0.1$ mg/l [dechlor. required, non-detectable format]

__X__b) 0.1 mg/l $\leq C_w <$ 2.0 mg/l (2.5 mg/l for PWS, Shellfish waters) [dechlor. required, detectable format]

___ c) $C_w > 2.0$ mg/l (2.5 mg/l for PWS, Shellfish waters) [dechlor. not required, include a restrictive technology max. value]

The design flow of this treatment facility is 30 MGD.

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

See Part I.B. for additional TRC limitations.

ATTACHMENT 6

EFFLUENT LIMITATIONS/MONITORING RATIONALE/SUITABLE DATA/ ANTIDEGRADATION/ANTIBACKSLIDING

HRSD NANSEMOND STP
Rationale For Parameters, Limitations, And Sampling Requirements
Outfall 001

Flow: No limit, monitoring is required with continuous, totalizing, indicating or recording equipment. This based on the VPDES Permit Manual, and is standard for sanitary wastewater plants with discharges greater than 2 MGD. The design flow of 30 MGD is the baseline for the 95% design flow capacity notification.

pH: Minimum limit of 6.0 and maximum of 9.0 S.U. These limits are based on Federal Effluent Guidelines (40 CFR 133.102) and Water Quality Standards in 9 VAC 25-260-50, which limits pH to the range above for coastal waters of the State. Monitoring is a daily grab sample and is standard for sanitary WW plants with discharges greater than 2 MGD.

Biochemical Oxygen Demand: Monthly average of 30 mg/l and 3406 kg/day and a weekly average of 45 mg/l and 5110 kg/day. This is based on Federal Effluent Guidelines (40 CFR 133.102) which sets the limits for secondary WW plants. Loading limits are in whole numbers based upon the latest DEQ significant figures guidance (06-2016). Monitoring required is a 24 hour composite, 3 days a week. The frequency is based upon the previous permit reissuances where DEQ guidance document 98-2005 was used to decrease the monitoring frequency to 3days/week. This will be carried forward for this reissuance.

Total Suspended Solids: Monthly average of 30 mg/l and 3406 kg/day and a weekly average of 45 mg/l and 5110 kg/day. This is based on Federal Effluent Guidelines (40 CFR 133.102) which sets the limits for secondary WW plants. Loading limits are in whole numbers based upon the latest DEQ significant figures guidance (06-2016). Monitoring required is a 24 hour composite, 3 days a week. The frequency is based upon the previous permit reissuances where DEQ guidance document 98-2005 was used to decrease the monitoring frequency to 3 days/week. This will be carried forward for this reissuance.

Total Residual Contact Chlorine: Minimum limit after contact time is 1.5 mg/l with 36 exceptions. The limit is standard for Shellfish Waters and follows guidance entitled "Chlorine Water Quality Standard" issued 10/21/98. In addition, it follows the requirements of the VPDES permit manual. These process monitoring limits are believed necessary to ensure proper disinfection. Monitoring required is a grab sample once every two hours. This is based on the VPDES Permit Manual and is standard for municipal discharges of > 2.0 MGD to nutrient enriched waters.
A special condition requires reporting when 3 or more consecutive TRC readings are below 0.6 mg/l or the TRC is less than 0.1 mg/l.

Final Total Residual Chlorine:	A weekly average of 2.4 mg/l. A monthly average of 0.20 mg/l. This is a technology based limit following guidance document 00-2011 and is carried forward from the current permit. Monitoring is required once/day by grab sample. The frequency is based on the VPDES permit manual and is standard for municipal discharges of >2.0 MGD.
Total Phosphorus Calendar Year	An annual average concentration limit of 2.0 mg/l is placed in the permit with monitoring on an annual basis. Additional nutrient monitoring and reporting is covered under the General VPDES Watershed Permit for Total Nitrogen and Total Phosphorus. The Nansemond HRSD facility is covered under VAN040090. On 5/16/07 guidance document 07-2008 was released by DEQ Central Office for the implementation of the nutrient general permit in relation to the individual permit. The guidance states (pg 17) that the annual concentration limit be included at the next permit reissuance/modification after the effective dated of the Watershed general permit total phosphorus limit. HRSD chose to accept the Total Phosphorus limit for the James River bubble permit on January 1, 2007; therefore the concentration average limit was changed from monthly to annual. This is carried forward in this reissuance.
Total Phosphorus Year-to-Date	There is no limit for the monthly average TP Year-to-date parameter. This parameter was added to the permit in accordance with guidance document 07-2008. Reporting is 1/M and is a calculation. Data for this parameter is collected in accordance with the VPDES permit VAN040090 for the James River Watershed held by HRSD.
Total Phosphorus	There is no limit for the monthly average phosphorus parameter. This parameter was added to the permit in accordance with guidance document 07-2008. Reporting is 1/M. Data for this parameter is collected in accordance with the VPDES permit VAN040090 for the James River Watershed. Reporting for this parameter is required in the individual permit (IP) because the annual concentration limits is contained in the IP. All data used to calculate and determine compliance with the limit in the IP needs to be in the same document and reported on the same form as the limit.
Total Nitrogen Calendar Year	A limit of 8.0 mg/l will be added for Total Nitrogen as a final limit. Part I Section C.4. of the permit states that upon issuance of a CTC, DEQ staff shall initiate modification of the permit to include annual concentration limits based on the nutrient removal technologies listed in the CTC. The CTC for this facility was issued on 8/28/09 and the permit modified to include the TN limit. The CTO was issued on 7/6/11. The limit of 8.0 is in accordance with the significant figure guidance document 06-2016.

Total Nitrogen Year-to-Date There is no limit for the monthly average TN Year-to-date parameter. This parameter was added to the permit in accordance with guidance document 07-2008. Reporting is 1/M and is a calculation. Data for this parameter is collected in accordance with the VPDES Permit VAN040090 for the James River Watershed held by HRSD.

Total Nitrogen There is no limit for the monthly average nitrogen parameter. This parameter was added in accordance with guidance document 07-2008. Reporting will be 1/M. Data is collected in accordance with the VPDES permit VAN040090 for the James River Watershed. Reporting for this parameter is required in the individual permit (IP) because the annual concentration limit is contained in the IP. All data used to calculate and determine compliance with the limit in the IP needs to be in the same document and reported on the same for as the limit.

Fecal Coliform: Monthly average of 200 n/cml. This is based on Water Quality Standards (9 VAC 25-260-160) and is believed protective of instream standards. Monitoring required is a grab sample once a week. The VPDES Manual allows reduction to this frequency based on long term average discharge values in relation to the monthly average limit. Current guidance requires fecal coliform monitoring in salt or transition waters if the discharge is to shellfish waters. BPJ determines that this frequency is adequate to determine compliance with the standard.

Enterococci: A monthly average limit of 35 n/cml is included per water quality standards. Sampling is required 2/Month to be calculated as a geometric mean. Samples must be taken at least 7 days apart. This is carried forward from the current permit. Enterococci was added at the time the last permit modification due to Enterococci monitoring becoming an issue that EPA addressed in late 2007/early 2008.

Water Quality Standards Reasonable Potential

Zinc, Chlorodibromomethane, Chloroform, and Dichlorobromomethane all had a quantifiable concentration for the data gather for the 2012 application. However, these data points were significantly below the most limiting wasteload allocation found in the attached wasteload allocation analysis. No limits were needed for these parameters.

All other water quality parameters reported on Form 2A were below the quantification levels. No additional limits are needed at this time.

Mixing Zone Analysis

A dilution study was submitted for this facility in 7/98. The dilution study was approved by central office at the time of submittal. The acute dilution ratio is 73:1 and the chronic ratio is 600:1. Results of the study showing the ratios are attached.

Stormwater

Outfalls 002-007 are discharges of stormwater from the plant (industrial) area. HRSD has met the requirements for industrial "no exposure", thereby only discharging stormwater not associated with an industrial activity. The Stormwater Management Condition has been removed from the permit. The "no exposure" certification form is attached to the section.

Sludge

Sludge monitoring parameters, monthly average concentrations, and ceiling concentration maximums are based on requirements taken from the VPDES manual for PC (pollutant concentration) sludge. The frequency of monitoring is 1/application due to this being the secondary backup plan for sludge management for this facility. Sludge is first incinerated. The primary backup plan is for composting by HRSD contractor (McGill).

VIRGINIA DEQ NO EXPOSURE CERTIFICATION
FOR EXCLUSION FROM VPDES STORM WATER PERMITTING

Submission of this **No Exposure Certification** constitutes notice that the entity identified below does not require permit authorization for its storm water discharges associated with industrial activity under the VPDES Permit Program due to the existence of a condition of **No Exposure**.

A condition of **No Exposure** exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in storm water discharges (e.g., rock salt).

A No Exposure Certification must be provided for each facility qualifying for the No Exposure exclusion. In addition, the exclusion from VPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the No Exposure exclusion.

By signing and submitting this No Exposure Certification form, the entity below is certifying that a condition of No Exposure exists at its facility or site, and is obligated to comply with the terms and conditions at 9 VAC 25-31-120 E (the VPDES Permit Regulation).

Please Type or Print All Information. ALL INFORMATION ON THIS FORM MUST BE PROVIDED.

1. **Facility Operator Information**

   Name: Hampton Roads Sanitation District

   Mailing Address: 1436 Air Rail Avenue

   City: Virginia Beach State: VA Zip: 23455 Phone: 757-460-2261

2. **Facility/Site Location Information**

   Facility Name: Nansemond STP

   Address: 6909 Armstead Road

   City: Suffolk State: VA Zip: 23435

   County Name:

   Latitude: 36 53' 30" Longitude: 75 25' 30"

3. **Was the facility or site previously covered under a VPDES storm water permit?** Yes ☑ No ☐

   If "Yes", enter the VPDES permit number: VA0081299

4. **SIC/Activity Codes:** Primary: 4952 Secondary (if applicable):

5. **Total size of facility/site associated with industrial activity:** 39.25 acres

6. **Have you paved or roofed over a formerly exposed pervious area in order to qualify for the No Exposure exclusion?** Yes ☐ No ☑

   If "Yes", please indicate approximately how much area was paved or roofed. Completing this question does not disqualify you for the No Exposure exclusion. However, DEQ may use this information in considering whether storm water discharges from your site are likely to have an adverse impact on water quality, in which case you could be required to obtain permit coverage.

   Less than one acre ☐ One to five acres ☐ More than five acres ☐

7. Exposure Checklist

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) **If you answer "Yes" to any of these questions (1) through (11), you are <u>not</u> eligible for the No Exposure exclusion.**

	Yes	No
(1) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	☐	☑
(2) Materials or residuals on the ground or in storm water inlets from spill/leaks	☐	☑
(3) Materials or products from past industrial activity	☐	☑
(4) Material handling equipment (except adequately maintained vehicles)	☐	☑
(5) Materials or products during loading/unloading or transporting activities	☐	☑
(6) Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)	☐	☑
(7) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	☐	☑
(8) Materials or products handled/stored on roads or railways owned or maintained by the discharger	☐	☑
(9) Waste material (except waste in covered, non-leaking containers [e.g., dumpsters])	☐	☑
(10) Application or disposal of process wastewater (unless otherwise permitted)	☐	☑
(11) Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow	☐	☑

8. Certification Statement

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of no exposure and obtaining an exclusion from VPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under 9 VAC 25-31-120 E 2).

I understand that I am obligated to submit a No Exposure Certification form once every five years to the Department of Environmental Quality and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the Department, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under a VPDES permit prior to any point source discharge of storm water associated with industrial activity from the facility.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: Edward G. Henifin, P.E.

Print Title: General Manager

Signature: [signature]

Date: 2/6/2012

For Department of Environmental Quality Use Only

Accepted/Not Accepted by: [signature] Date: 2/29/12

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	BOD5	227	282		3	4	1-Dec-07	31-Dec-07
VA0081299	BOD5	474	481		7	7	1-Jan-08	31-Jan-08
VA0081299	BOD5	336	379		5	6	1-Feb-08	29-Feb-08
VA0081299	BOD5	467	807		7	12	1-Mar-08	31-Mar-08
VA0081299	BOD5	240	293		4	4	1-Apr-08	30-Apr-08
VA0081299	BOD5	310	437		5	7	1-May-08	31-May-08
VA0081299	BOD5	222	281		4	5	1-Jun-08	30-Jun-08
VA0081299	BOD5	104	158		2	3	1-Jul-08	31-Jul-08
VA0081299	BOD5	157	162		3	3	1-Aug-08	31-Aug-08
VA0081299	BOD5	161	177		3	3	1-Sep-08	30-Sep-08
VA0081299	BOD5	147	165		2	3	1-Oct-08	31-Oct-08
VA0081299	BOD5	133	180		2	3	1-Nov-08	30-Nov-08
VA0081299	BOD5	259	292		4	4	1-Dec-08	31-Dec-08
VA0081299	BOD5	299	389		5	6	1-Jan-09	31-Jan-09
VA0081299	BOD5	376	501		6	8	1-Feb-09	28-Feb-09
VA0081299	BOD5	648	802		9	10	1-Mar-09	31-Mar-09
VA0081299	BOD5	630	750		9	11	1-Apr-09	30-Apr-09
VA0081299	BOD5	481	536		7	7	1-May-09	31-May-09
VA0081299	BOD5	392	520		5	6	1-Jun-09	30-Jun-09
VA0081299	BOD5	313	377		5	6	1-Jul-09	31-Jul-09
VA0081299	BOD5	219	228		3	3	1-Aug-09	31-Aug-09
VA0081299	BOD5	248	280		3	4	1-Sep-09	30-Sep-09
VA0081299	BOD5	441	716		7	11	1-Oct-09	31-Oct-09
VA0081299	BOD5	636	954		9	12	1-Nov-09	30-Nov-09
VA0081299	BOD5	1020	1604		13	21	1-Dec-09	31-Dec-09
VA0081299	BOD5	1058	1228		15	17	1-Jan-10	31-Jan-10
VA0081299	BOD5	609	635		9	9	1-Feb-10	28-Feb-10
VA0081299	BOD5	731	941		10	14	1-Mar-10	31-Mar-10
VA0081299	BOD5	571	650		9	11	1-Apr-10	30-Apr-10
VA0081299	BOD5	418	541		7	9	1-May-10	31-May-10
VA0081299	BOD5	559	740		9	12	1-Jun-10	30-Jun-10
VA0081299	BOD5	446	513		8	9	1-Jul-10	31-Jul-10
VA0081299	BOD5	361	494		6	8	1-Aug-10	31-Aug-10
VA0081299	BOD5	259	249		4	4	1-Sep-10	30-Sep-10
VA0081299	BOD5	277	405		4	7	1-Oct-10	31-Oct-10
VA0081299	BOD5	248	259		4	4	1-Nov-10	30-Nov-10
VA0081299	BOD5	410	564		7	9	1-Dec-10	31-Dec-10
VA0081299	BOD5	461	500		7	8	1-Jan-11	31-Jan-11
VA0081299	BOD5	392	421		6	7	1-Feb-11	28-Feb-11
VA0081299	BOD5	304	319		5	5	1-Mar-11	31-Mar-11
VA0081299	BOD5	407	496		7	9	1-Apr-11	30-Apr-11
VA0081299	BOD5	310	393		6	7	1-May-11	31-May-11
VA0081299	BOD5	199	180		4	3	1-Jun-11	30-Jun-11
VA0081299	BOD5	234	319		4	6	1-Jul-11	31-Jul-11
VA0081299	BOD5	203	211		3	4	1-Aug-11	31-Aug-11
VA0081299	BOD5	212	350		3	6	1-Sep-11	30-Sep-11

Pulled from Discoverer 3/6/12 DDA

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	BOD5	163	179		3	3	1-Oct-11	31-Oct-11
VA0081299	BOD5	224	256		4	4	1-Nov-11	30-Nov-11
VA0081299	BOD5	292	316		5	5	1-Dec-11	31-Dec-11
VA0081299	BOD5	385	395		6	6	1-Jan-12	31-Jan-12
VA0081299	BOD5						1-Feb-12	29-Feb-12
VA0081299	CL2, TOTAL CONTACT			1.1			1-Dec-07	31-Dec-07
VA0081299	CL2, TOTAL CONTACT			0.36			1-Jan-08	31-Jan-08
VA0081299	CL2, TOTAL CONTACT			0.99			1-Feb-08	29-Feb-08
VA0081299	CL2, TOTAL CONTACT			1			1-Mar-08	31-Mar-08
VA0081299	CL2, TOTAL CONTACT			1.1			1-Apr-08	30-Apr-08
VA0081299	CL2, TOTAL CONTACT			1.2			1-May-08	31-May-08
VA0081299	CL2, TOTAL CONTACT			1			1-Jun-08	30-Jun-08
VA0081299	CL2, TOTAL CONTACT			1			1-Jul-08	31-Jul-08
VA0081299	CL2, TOTAL CONTACT			0.96			1-Aug-08	31-Aug-08
VA0081299	CL2, TOTAL CONTACT			1.2			1-Sep-08	30-Sep-08
VA0081299	CL2, TOTAL CONTACT			1			1-Oct-08	31-Oct-08
VA0081299	CL2, TOTAL CONTACT			1.2			1-Nov-08	30-Nov-08
VA0081299	CL2, TOTAL CONTACT			1.2			1-Dec-08	31-Dec-08
VA0081299	CL2, TOTAL CONTACT			1.2			1-Jan-09	31-Jan-09
VA0081299	CL2, TOTAL CONTACT			1.1			1-Feb-09	28-Feb-09
VA0081299	CL2, TOTAL CONTACT			1.3			1-Mar-09	31-Mar-09
VA0081299	CL2, TOTAL CONTACT			1.2			1-Apr-09	30-Apr-09
VA0081299	CL2, TOTAL CONTACT			1.4			1-May-09	31-May-09
VA0081299	CL2, TOTAL CONTACT			0.89			1-Jun-09	30-Jun-09
VA0081299	CL2, TOTAL CONTACT			0.84			1-Jul-09	31-Jul-09
VA0081299	CL2, TOTAL CONTACT			1			1-Aug-09	31-Aug-09
VA0081299	CL2, TOTAL CONTACT			1.2			1-Sep-09	30-Sep-09
VA0081299	CL2, TOTAL CONTACT			0.39			1-Oct-09	31-Oct-09
VA0081299	CL2, TOTAL CONTACT			0.1			1-Nov-09	30-Nov-09
VA0081299	CL2, TOTAL CONTACT			1.3			1-Dec-09	31-Dec-09
VA0081299	CL2, TOTAL CONTACT			1.1			1-Jan-10	31-Jan-10
VA0081299	CL2, TOTAL CONTACT			1.1			1-Feb-10	28-Feb-10
VA0081299	CL2, TOTAL CONTACT			1.4			1-Mar-10	31-Mar-10
VA0081299	CL2, TOTAL CONTACT			1			1-Apr-10	30-Apr-10
VA0081299	CL2, TOTAL CONTACT			0.9			1-May-10	31-May-10
VA0081299	CL2, TOTAL CONTACT			0.8			1-Jun-10	30-Jun-10
VA0081299	CL2, TOTAL CONTACT			0.8			1-Jul-10	31-Jul-10
VA0081299	CL2, TOTAL CONTACT			0.9			1-Aug-10	31-Aug-10
VA0081299	CL2, TOTAL CONTACT			0.8			1-Sep-10	30-Sep-10
VA0081299	CL2, TOTAL CONTACT			1.2			1-Oct-10	31-Oct-10
VA0081299	CL2, TOTAL CONTACT			1.1			1-Nov-10	30-Nov-10
VA0081299	CL2, TOTAL CONTACT			0.8			1-Dec-10	31-Dec-10
VA0081299	CL2, TOTAL CONTACT			1.1			1-Jan-11	31-Jan-11
VA0081299	CL2, TOTAL CONTACT			0.72			1-Feb-11	28-Feb-11
VA0081299	CL2, TOTAL CONTACT			0.93			1-Mar-11	31-Mar-11
VA0081299	CL2, TOTAL CONTACT			0.7			1-Apr-11	30-Apr-11

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	CL2, TOTAL CONTACT			1			1-May-11	31-May-11
VA0081299	CL2, TOTAL CONTACT			1			1-Jun-11	30-Jun-11
VA0081299	CL2, TOTAL CONTACT			0.92			1-Jul-11	31-Jul-11
VA0081299	CL2, TOTAL CONTACT			0.8			1-Aug-11	31-Aug-11
VA0081299	CL2, TOTAL CONTACT			0.77			1-Sep-11	30-Sep-11
VA0081299	CL2, TOTAL CONTACT			1.3			1-Oct-11	31-Oct-11
VA0081299	CL2, TOTAL CONTACT			1.1			1-Nov-11	30-Nov-11
VA0081299	CL2, TOTAL CONTACT			0.68			1-Dec-11	31-Dec-11
VA0081299	CL2, TOTAL CONTACT			0.66			1-Jan-12	31-Jan-12
VA0081299	CL2, TOTAL CONTACT						1-Feb-12	29-Feb-12
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Dec-07	31-Dec-07
VA0081299	CL2, TOTAL FINAL				0.0045	0.020	1-Jan-08	31-Jan-08
VA0081299	CL2, TOTAL FINAL				0.0062	0.026	1-Feb-08	29-Feb-08
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Mar-08	31-Mar-08
VA0081299	CL2, TOTAL FINAL				0.023	0.090	1-Apr-08	30-Apr-08
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-May-08	31-May-08
VA0081299	CL2, TOTAL FINAL				0.0073	0.017	1-Jun-08	30-Jun-08
VA0081299	CL2, TOTAL FINAL				0.0048	0.021	1-Jul-08	31-Jul-08
VA0081299	CL2, TOTAL FINAL				0.0048	0.021	1-Aug-08	31-Aug-08
VA0081299	CL2, TOTAL FINAL				0.0033	0.014	1-Sep-08	30-Sep-08
VA0081299	CL2, TOTAL FINAL				0.027	<QL	1-Oct-08	31-Oct-08
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Nov-08	30-Nov-08
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Dec-08	31-Dec-08
VA0081299	CL2, TOTAL FINAL				0.0032	0.014	1-Jan-09	31-Jan-09
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Feb-09	28-Feb-09
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Mar-09	31-Mar-09
VA0081299	CL2, TOTAL FINAL				0.0084	0.033	1-Apr-09	30-Apr-09
VA0081299	CL2, TOTAL FINAL				0.0058	0.026	1-May-09	31-May-09
VA0081299	CL2, TOTAL FINAL				0.023	0.088	1-Jun-09	30-Jun-09
VA0081299	CL2, TOTAL FINAL				0.0048	<QL	1-Jul-09	31-Jul-09
VA0081299	CL2, TOTAL FINAL				0.047	0.15	1-Aug-09	31-Aug-09
VA0081299	CL2, TOTAL FINAL				0.0070	0.016	1-Sep-09	30-Sep-09
VA0081299	CL2, TOTAL FINAL				0.016	0.041	1-Oct-09	31-Oct-09
VA0081299	CL2, TOTAL FINAL				0.026	0.079	1-Nov-09	30-Nov-09
VA0081299	CL2, TOTAL FINAL				0.0077	0.019	1-Dec-09	31-Dec-09
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Jan-10	31-Jan-10
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Feb-10	28-Feb-10
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Mar-10	31-Mar-10
VA0081299	CL2, TOTAL FINAL				0.039	0.07	1-Apr-10	30-Apr-10
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-May-10	31-May-10
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Jun-10	30-Jun-10
VA0081299	CL2, TOTAL FINAL				0.0032	0.01	1-Jul-10	31-Jul-10
VA0081299	CL2, TOTAL FINAL				0.013	0.04	1-Aug-10	31-Aug-10
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Sep-10	30-Sep-10
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Oct-10	31-Oct-10
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Nov-10	30-Nov-10

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Dec-10	31-Dec-10
VA0081299	CL2, TOTAL FINAL				0.0039	0.02	1-Jan-11	31-Jan-11
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Feb-11	28-Feb-11
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Mar-11	31-Mar-11
VA0081299	CL2, TOTAL FINAL				0.0033	0.014	1-Apr-11	30-Apr-11
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-May-11	31-May-11
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Jun-11	30-Jun-11
VA0081299	CL2, TOTAL FINAL				0.0035	0.016	1-Jul-11	31-Jul-11
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Aug-11	31-Aug-11
VA0081299	CL2, TOTAL FINAL				0.0053	0.023	1-Sep-11	30-Sep-11
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Oct-11	31-Oct-11
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Nov-11	30-Nov-11
VA0081299	CL2, TOTAL FINAL				<QL	<QL	1-Dec-11	31-Dec-11
VA0081299	CL2, TOTAL FINAL				0.010	0.029	1-Jan-12	31-Jan-12
VA0081299	CL2, TOTAL FINAL						1-Feb-12	29-Feb-12
VA0081299	COLIFORM, FECAL				8		1-Dec-07	31-Dec-07
VA0081299	COLIFORM, FECAL				2		1-Jan-08	31-Jan-08
VA0081299	COLIFORM, FECAL				3		1-Feb-08	29-Feb-08
VA0081299	COLIFORM, FECAL				20		1-Mar-08	31-Mar-08
VA0081299	COLIFORM, FECAL				5		1-Apr-08	30-Apr-08
VA0081299	COLIFORM, FECAL				2		1-May-08	31-May-08
VA0081299	COLIFORM, FECAL				2		1-Jun-08	30-Jun-08
VA0081299	COLIFORM, FECAL				2		1-Jul-08	31-Jul-08
VA0081299	COLIFORM, FECAL				2		1-Aug-08	31-Aug-08
VA0081299	COLIFORM, FECAL				3		1-Sep-08	30-Sep-08
VA0081299	COLIFORM, FECAL				2		1-Oct-08	31-Oct-08
VA0081299	COLIFORM, FECAL				7		1-Nov-08	30-Nov-08
VA0081299	COLIFORM, FECAL				3		1-Dec-08	31-Dec-08
VA0081299	COLIFORM, FECAL				4		1-Jan-09	31-Jan-09
VA0081299	COLIFORM, FECAL				1		1-Feb-09	28-Feb-09
VA0081299	COLIFORM, FECAL				5		1-Mar-09	31-Mar-09
VA0081299	COLIFORM, FECAL				4		1-Apr-09	30-Apr-09
VA0081299	COLIFORM, FECAL				2		1-May-09	31-May-09
VA0081299	COLIFORM, FECAL				2		1-Jun-09	30-Jun-09
VA0081299	COLIFORM, FECAL				8		1-Jul-09	31-Jul-09
VA0081299	COLIFORM, FECAL				19		1-Aug-09	31-Aug-09
VA0081299	COLIFORM, FECAL				13		1-Sep-09	30-Sep-09
VA0081299	COLIFORM, FECAL				11		1-Oct-09	31-Oct-09
VA0081299	COLIFORM, FECAL				3		1-Nov-09	30-Nov-09
VA0081299	COLIFORM, FECAL				2		1-Dec-09	31-Dec-09
VA0081299	COLIFORM, FECAL				3		1-Jan-10	31-Jan-10
VA0081299	COLIFORM, FECAL				1		1-Feb-10	28-Feb-10
VA0081299	COLIFORM, FECAL				3		1-Mar-10	31-Mar-10
VA0081299	COLIFORM, FECAL				1		1-Apr-10	30-Apr-10
VA0081299	COLIFORM, FECAL				1		1-May-10	31-May-10
VA0081299	COLIFORM, FECAL				2		1-Jun-10	30-Jun-10

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	COLIFORM, FECAL				4		1-Jul-10	31-Jul-10
VA0081299	COLIFORM, FECAL				14		1-Aug-10	31-Aug-10
VA0081299	COLIFORM, FECAL				4		1-Sep-10	30-Sep-10
VA0081299	COLIFORM, FECAL				3		1-Oct-10	31-Oct-10
VA0081299	COLIFORM, FECAL				3		1-Nov-10	30-Nov-10
VA0081299	COLIFORM, FECAL				2		1-Dec-10	31-Dec-10
VA0081299	COLIFORM, FECAL				2		1-Jan-11	31-Jan-11
VA0081299	COLIFORM, FECAL				2		1-Feb-11	28-Feb-11
VA0081299	COLIFORM, FECAL				3		1-Mar-11	31-Mar-11
VA0081299	COLIFORM, FECAL				13		1-Apr-11	30-Apr-11
VA0081299	COLIFORM, FECAL				3		1-May-11	31-May-11
VA0081299	COLIFORM, FECAL				2		1-Jun-11	30-Jun-11
VA0081299	COLIFORM, FECAL				3		1-Jul-11	31-Jul-11
VA0081299	COLIFORM, FECAL				3		1-Aug-11	31-Aug-11
VA0081299	COLIFORM, FECAL				13		1-Sep-11	30-Sep-11
VA0081299	COLIFORM, FECAL				2		1-Oct-11	31-Oct-11
VA0081299	COLIFORM, FECAL				3		1-Nov-11	30-Nov-11
VA0081299	COLIFORM, FECAL				9		1-Dec-11	31-Dec-11
VA0081299	COLIFORM, FECAL				7		1-Jan-12	31-Jan-12
VA0081299	COLIFORM, FECAL						1-Feb-12	29-Feb-12
VA0081299	ENTEROCOCCI				1		1-Jan-10	31-Jan-10
VA0081299	ENTEROCOCCI				2		1-Feb-10	28-Feb-10
VA0081299	ENTEROCOCCI				2		1-Mar-10	31-Mar-10
VA0081299	ENTEROCOCCI				3		1-Apr-10	30-Apr-10
VA0081299	ENTEROCOCCI				9		1-May-10	31-May-10
VA0081299	ENTEROCOCCI				1		1-Jun-10	30-Jun-10
VA0081299	ENTEROCOCCI				2		1-Jul-10	31-Jul-10
VA0081299	ENTEROCOCCI				4		1-Aug-10	31-Aug-10
VA0081299	ENTEROCOCCI				3		1-Sep-10	30-Sep-10
VA0081299	ENTEROCOCCI				1		1-Oct-10	31-Oct-10
VA0081299	ENTEROCOCCI				3		1-Nov-10	30-Nov-10
VA0081299	ENTEROCOCCI				4		1-Dec-10	31-Dec-10
VA0081299	ENTEROCOCCI				1		1-Jan-11	31-Jan-11
VA0081299	ENTEROCOCCI				1		1-Feb-11	28-Feb-11
VA0081299	ENTEROCOCCI				2		1-Mar-11	31-Mar-11
VA0081299	ENTEROCOCCI				4		1-Apr-11	30-Apr-11
VA0081299	ENTEROCOCCI				1		1-May-11	31-May-11
VA0081299	ENTEROCOCCI				4		1-Jun-11	30-Jun-11
VA0081299	ENTEROCOCCI				2		1-Jul-11	31-Jul-11
VA0081299	ENTEROCOCCI				1		1-Aug-11	31-Aug-11
VA0081299	ENTEROCOCCI				1		1-Sep-11	30-Sep-11
VA0081299	ENTEROCOCCI				1		1-Oct-11	31-Oct-11
VA0081299	ENTEROCOCCI				1		1-Nov-11	30-Nov-11
VA0081299	ENTEROCOCCI				1		1-Dec-11	31-Dec-11
VA0081299	ENTEROCOCCI				1		1-Jan-12	31-Jan-12
VA0081299	ENTEROCOCCI						1-Feb-12	29-Feb-12

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	FLOW	17.24	19.22				1-Dec-07	31-Dec-07
VA0081299	FLOW	17.41	18.31				1-Jan-08	31-Jan-08
VA0081299	FLOW	18.03	19.67				1-Feb-08	29-Feb-08
VA0081299	FLOW	17.02	20.86				1-Mar-08	31-Mar-08
VA0081299	FLOW	17.07	21.65				1-Apr-08	30-Apr-08
VA0081299	FLOW	16.38	17.29				1-May-08	31-May-08
VA0081299	FLOW	15.85	16.60				1-Jun-08	30-Jun-08
VA0081299	FLOW	15.97	17.65				1-Jul-08	31-Jul-08
VA0081299	FLOW	15.75	17.11				1-Aug-08	31-Aug-08
VA0081299	FLOW	16.31	20.86				1-Sep-08	30-Sep-08
VA0081299	FLOW	15.85	16.87				1-Oct-08	31-Oct-08
VA0081299	FLOW	16.75	19.17				1-Nov-08	30-Nov-08
VA0081299	FLOW	17.09	21.51				1-Dec-08	31-Dec-08
VA0081299	FLOW	16.47	17.44				1-Jan-09	31-Jan-09
VA0081299	FLOW	16.09	18.22				1-Feb-09	28-Feb-09
VA0081299	FLOW	19.69	24.45				1-Mar-09	31-Mar-09
VA0081299	FLOW	18.10	19.26				1-Apr-09	30-Apr-09
VA0081299	FLOW	18.49	20.97				1-May-09	31-May-09
VA0081299	FLOW	19.06	28.25				1-Jun-09	30-Jun-09
VA0081299	FLOW	17.22	18.19				1-Jul-09	31-Jul-09
VA0081299	FLOW	18.07	20.59				1-Aug-09	31-Aug-09
VA0081299	FLOW	18.76	25.01				1-Sep-09	30-Sep-09
VA0081299	FLOW	17.79	19.59				1-Oct-09	31-Oct-09
VA0081299	FLOW	19.37	30.37				1-Nov-09	30-Nov-09
VA0081299	FLOW	20.22	26.53				1-Dec-09	31-Dec-09
VA0081299	FLOW	18.48	21.61				1-Jan-10	31-Jan-10
VA0081299	FLOW	19.39	27.02				1-Feb-10	28-Feb-10
VA0081299	FLOW	18.50	23.86				1-Mar-10	31-Mar-10
VA0081299	FLOW	16.62	18.81				1-Apr-10	30-Apr-10
VA0081299	FLOW	16.19	21.09				1-May-10	31-May-10
VA0081299	FLOW	15.71	18.12				1-Jun-10	30-Jun-10
VA0081299	FLOW	15.05	16.70				1-Jul-10	31-Jul-10
VA0081299	FLOW	15.60	16.58				1-Aug-10	31-Aug-10
VA0081299	FLOW	15.97	28.63				1-Sep-10	30-Sep-10
VA0081299	FLOW	17.49	27.56				1-Oct-10	31-Oct-10
VA0081299	FLOW	15.80	16.99				1-Nov-10	30-Nov-10
VA0081299	FLOW	16.23	17.86				1-Dec-10	31-Dec-10
VA0081299	FLOW	17.64	22.08				1-Jan-11	31-Jan-11
VA0081299	FLOW	16.32	18.03				1-Feb-11	28-Feb-11
VA0081299	FLOW	15.68	17.06				1-Mar-11	31-Mar-11
VA0081299	FLOW	15.30	16.56				1-Apr-11	30-Apr-11
VA0081299	FLOW	14.84	15.55				1-May-11	31-May-11
VA0081299	FLOW	14.66	15.81				1-Jun-11	30-Jun-11
VA0081299	FLOW	15.06	16.89				1-Jul-11	31-Jul-11
VA0081299	FLOW	15.69	20.51				1-Aug-11	31-Aug-11
VA0081299	FLOW	17.22	20.80				1-Sep-11	30-Sep-11

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	FLOW	15.83	16.99				1-Oct-11	31-Oct-11
VA0081299	FLOW	16.29	17.62				1-Nov-11	30-Nov-11
VA0081299	FLOW	16.01	16.71				1-Dec-11	31-Dec-11
VA0081299	FLOW	16.11	17.04				1-Jan-12	31-Jan-12
VA0081299	FLOW						1-Feb-12	29-Feb-12
VA0081299	NITROGEN, TOTAL (AS N)				NR		1-Feb-11	28-Feb-11
VA0081299	NITROGEN, TOTAL (AS N)				NR		1-Mar-11	31-Mar-11
VA0081299	NITROGEN, TOTAL (AS N)				NR		1-Apr-11	30-Apr-11
VA0081299	NITROGEN, TOTAL (AS N)				NR		1-May-11	31-May-11
VA0081299	NITROGEN, TOTAL (AS N)				NR		1-Jun-11	30-Jun-11
VA0081299	NITROGEN, TOTAL (AS N)				NR		1-Jul-11	31-Jul-11
VA0081299	NITROGEN, TOTAL (AS N)				NR		1-Aug-11	31-Aug-11
VA0081299	NITROGEN, TOTAL (AS N)				NR		1-Sep-11	30-Sep-11
VA0081299	NITROGEN, TOTAL (AS N)				6.8		1-Oct-11	31-Oct-11
VA0081299	NITROGEN, TOTAL (AS N)				8.5		1-Nov-11	30-Nov-11
VA0081299	NITROGEN, TOTAL (AS N)				8.4		1-Dec-11	31-Dec-11
VA0081299	NITROGEN, TOTAL (AS N)				4.7		1-Jan-12	31-Jan-12
VA0081299	NITROGEN, TOTAL (AS N)						1-Feb-12	29-Feb-12
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				0.67		1-Jan-11	31-Jan-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				NR		1-Feb-11	28-Feb-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				0.61		1-Mar-11	31-Mar-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				NR		1-Apr-11	30-Apr-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				NR		1-May-11	31-May-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				0.69		1-Jun-11	30-Jun-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				0.77		1-Jul-11	31-Jul-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				0.86		1-Aug-11	31-Aug-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				NR		1-Sep-11	30-Sep-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				1.1		1-Dec-11	31-Dec-11
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				4.7		1-Jan-12	31-Jan-12
VA0081299	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)						1-Feb-12	29-Feb-12
VA0081299	PH			6.6		7.2	1-Dec-07	31-Dec-07
VA0081299	PH			6.6		7.2	1-Jan-08	31-Jan-08
VA0081299	PH			6.8		7.1	1-Feb-08	29-Feb-08
VA0081299	PH			6.9		7.3	1-Mar-08	31-Mar-08
VA0081299	PH			6.6		7.2	1-Apr-08	30-Apr-08
VA0081299	PH			6.6		7.2	1-May-08	31-May-08
VA0081299	PH			7.0		7.5	1-Jun-08	30-Jun-08
VA0081299	PH			6.6		7.4	1-Jul-08	31-Jul-08
VA0081299	PH			6.6		7.3	1-Aug-08	31-Aug-08
VA0081299	PH			6.7		7.2	1-Sep-08	30-Sep-08
VA0081299	PH			6.8		7.4	1-Oct-08	31-Oct-08
VA0081299	PH			6.5		7.2	1-Nov-08	30-Nov-08
VA0081299	PH			6.3		7.1	1-Dec-08	31-Dec-08
VA0081299	PH			6.9		7.1	1-Jan-09	31-Jan-09
VA0081299	PH			6.6		7.3	1-Feb-09	28-Feb-09
VA0081299	PH			6.9		7.2	1-Mar-09	31-Mar-09

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	PH			6.9		7.3	1-Apr-09	30-Apr-09
VA0081299	PH			6.7		7.2	1-May-09	31-May-09
VA0081299	PH			6.9		7.4	1-Jun-09	30-Jun-09
VA0081299	PH			6.6		7.4	1-Jul-09	31-Jul-09
VA0081299	PH			6.7		7.2	1-Aug-09	31-Aug-09
VA0081299	PH			6.6		7.2	1-Sep-09	30-Sep-09
VA0081299	PH			6.9		7.4	1-Oct-09	31-Oct-09
VA0081299	PH			6.6		7.2	1-Nov-09	30-Nov-09
VA0081299	PH			6.6		7.2	1-Dec-09	31-Dec-09
VA0081299	PH			6.7		7.2	1-Jan-10	31-Jan-10
VA0081299	PH			6.9		7.3	1-Feb-10	28-Feb-10
VA0081299	PH			7.0		7.3	1-Mar-10	31-Mar-10
VA0081299	PH			6.9		7.5	1-Apr-10	30-Apr-10
VA0081299	PH			6.7		7.2	1-May-10	31-May-10
VA0081299	PH			6.9		7.3	1-Jun-10	30-Jun-10
VA0081299	PH			7.0		7.5	1-Jul-10	31-Jul-10
VA0081299	PH			6.9		7.7	1-Aug-10	31-Aug-10
VA0081299	PH			6.8		7.3	1-Sep-10	30-Sep-10
VA0081299	PH			6.8		7.2	1-Oct-10	31-Oct-10
VA0081299	PH			6.5		7.2	1-Nov-10	30-Nov-10
VA0081299	PH			6.8		7.2	1-Dec-10	31-Dec-10
VA0081299	PH			6.7		7.1	1-Jan-11	31-Jan-11
VA0081299	PH			6.5		7.3	1-Feb-11	28-Feb-11
VA0081299	PH			7.0		7.3	1-Mar-11	31-Mar-11
VA0081299	PH			6.9		7.2	1-Apr-11	30-Apr-11
VA0081299	PH			7.0		7.2	1-May-11	31-May-11
VA0081299	PH			7.0		7.3	1-Jun-11	30-Jun-11
VA0081299	PH			7.0		7.3	1-Jul-11	31-Jul-11
VA0081299	PH			6.9		7.4	1-Aug-11	31-Aug-11
VA0081299	PH			6.9		7.3	1-Sep-11	30-Sep-11
VA0081299	PH			6.9		7.3	1-Oct-11	31-Oct-11
VA0081299	PH			6.7		7.3	1-Nov-11	30-Nov-11
VA0081299	PH			6.9		7.1	1-Dec-11	31-Dec-11
VA0081299	PH			6.7		7.2	1-Jan-12	31-Jan-12
VA0081299	PH						1-Feb-12	29-Feb-12
VA0081299	PHOSPHORUS, TOTAL - ANNUAL AVERAGE (MG/L)				1.1		1-Jan-08	31-Dec-08
VA0081299	PHOSPHORUS, TOTAL - ANNUAL AVERAGE (MG/L)				1.2		1-Jan-09	31-Dec-09
VA0081299	PHOSPHORUS, TOTAL - ANNUAL AVERAGE (MG/L)				1.1		1-Jan-10	31-Dec-10
VA0081299	PHOSPHORUS, TOTAL - ANNUAL AVERAGE (MG/L)				1.1		1-Jan-11	31-Dec-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.7		1-Dec-07	31-Dec-07
VA0081299	PHOSPHORUS, TOTAL (AS P)				2.2		1-Jan-08	31-Jan-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.62		1-Feb-08	29-Feb-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.62		1-Mar-08	31-Mar-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.0		1-Apr-08	30-Apr-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.7		1-May-08	31-May-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.53		1-Jun-08	30-Jun-08

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.3		1-Jul-08	31-Jul-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.89		1-Aug-08	31-Aug-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.99		1-Sep-08	30-Sep-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.3		1-Oct-08	31-Oct-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.4		1-Nov-08	30-Nov-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.1		1-Dec-08	31-Dec-08
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.96		1-Jan-09	31-Jan-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.1		1-Feb-09	28-Feb-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.85		1-Mar-09	31-Mar-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.1		1-Apr-09	30-Apr-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.4		1-May-09	31-May-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.3		1-Jun-09	30-Jun-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.5		1-Jul-09	31-Jul-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.99		1-Aug-09	31-Aug-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.89		1-Sep-09	30-Sep-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.76		1-Oct-09	31-Oct-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				2.5		1-Nov-09	30-Nov-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.72		1-Dec-09	31-Dec-09
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.63		1-Jan-10	31-Jan-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.59		1-Feb-10	28-Feb-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.55		1-Mar-10	31-Mar-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.49		1-Apr-10	30-Apr-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.54		1-May-10	31-May-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.91		1-Jun-10	30-Jun-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				3.9		1-Jul-10	31-Jul-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.2		1-Aug-10	31-Aug-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.7		1-Sep-10	30-Sep-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.3		1-Oct-10	31-Oct-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.56		1-Nov-10	30-Nov-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.73		1-Dec-10	31-Dec-10
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.67		1-Jan-11	31-Jan-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.63		1-Feb-11	28-Feb-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.52		1-Mar-11	31-Mar-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.5		1-Apr-11	30-Apr-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.47		1-May-11	31-May-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.37		1-Jun-11	30-Jun-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.3		1-Jul-11	31-Jul-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.5		1-Aug-11	31-Aug-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				2.4		1-Sep-11	30-Sep-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.5		1-Oct-11	31-Oct-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				1.0		1-Nov-11	30-Nov-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.92		1-Dec-11	31-Dec-11
VA0081299	PHOSPHORUS, TOTAL (AS P)				0.70		1-Jan-12	31-Jan-12
VA0081299	PHOSPHORUS, TOTAL (AS P)						1-Feb-12	29-Feb-12
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.7		1-Dec-07	31-Dec-07
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				2.2		1-Jan-08	31-Jan-08

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.4		1-Feb-08	29-Feb-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.2		1-Mar-08	31-Mar-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Apr-08	30-Apr-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.2		1-May-08	31-May-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Jun-08	30-Jun-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Jul-08	31-Jul-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Aug-08	31-Aug-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Sep-08	30-Sep-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Oct-08	31-Oct-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Nov-08	30-Nov-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Dec-08	31-Dec-08
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.96		1-Jan-09	31-Jan-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.0		1-Feb-09	28-Feb-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.95		1-Mar-09	31-Mar-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.99		1-Apr-09	30-Apr-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-May-09	31-May-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Jun-09	30-Jun-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.2		1-Jul-09	31-Jul-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Aug-09	31-Aug-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Sep-09	30-Sep-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Oct-09	31-Oct-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.2		1-Nov-09	30-Nov-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.2		1-Dec-09	31-Dec-09
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.63		1-Jan-10	31-Jan-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.61		1-Feb-10	28-Feb-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.59		1-Mar-10	31-Mar-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.57		1-Apr-10	30-Apr-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.56		1-May-10	31-May-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.62		1-Jun-10	30-Jun-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Jul-10	31-Jul-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Aug-10	31-Aug-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.2		1-Sep-10	30-Sep-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.2		1-Oct-10	31-Oct-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Nov-10	30-Nov-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Dec-10	31-Dec-10
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)						1-Jan-11	31-Jan-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.65		1-Feb-11	28-Feb-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)						1-Mar-11	31-Mar-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.83		1-Apr-11	30-Apr-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.76		1-May-11	31-May-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)						1-Jul-11	31-Jul-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)						1-Aug-11	31-Aug-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.0		1-Sep-11	30-Sep-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Oct-11	31-Oct-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Nov-11	30-Nov-11
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				1.1		1-Dec-11	31-Dec-11

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)				0.70		1-Jan-12	31-Jan-12
VA0081299	PHOSPHORUS, TOTAL (AS P) (YEAR-TO-DATE)						1-Feb-12	29-Feb-12
VA0081299	TSS	566	645		8.6	10	1-Dec-07	31-Dec-07
VA0081299	TSS	1112	1260		17	19	1-Jan-08	31-Jan-08
VA0081299	TSS	859	1018		13	15	1-Feb-08	29-Feb-08
VA0081299	TSS	935	1345		15	20	1-Mar-08	31-Mar-08
VA0081299	TSS	766	1049		12	17	1-Apr-08	30-Apr-08
VA0081299	TSS	822	1673		13	28	1-May-08	31-May-08
VA0081299	TSS	412	633		6.9	10	1-Jun-08	30-Jun-08
VA0081299	TSS	275	379		4.6	6.3	1-Jul-08	31-Jul-08
VA0081299	TSS	291	313		4.9	5.3	1-Aug-08	31-Aug-08
VA0081299	TSS	417	577		6.8	9.1	1-Sep-08	30-Sep-08
VA0081299	TSS	385	426		6.4	7.1	1-Oct-08	31-Oct-08
VA0081299	TSS	308	342		4.8	5.4	1-Nov-08	30-Nov-08
VA0081299	TSS	505	569		7.8	8.7	1-Dec-08	31-Dec-08
VA0081299	TSS	435	515		7.0	8.2	1-Jan-09	31-Jan-09
VA0081299	TSS	481	550		7.9	9.3	1-Feb-09	28-Feb-09
VA0081299	TSS	811	1140		11	14	1-Mar-09	31-Mar-09
VA0081299	TSS	569	680		8.3	9.6	1-Apr-09	30-Apr-09
VA0081299	TSS	487	615		6.9	8.4	1-May-09	31-May-09
VA0081299	TSS	381	422		5.3	6.1	1-Jun-09	30-Jun-09
VA0081299	TSS	637	954		9.8	15	1-Jul-09	31-Jul-09
VA0081299	TSS	362	445		5.3	6.7	1-Aug-09	31-Aug-09
VA0081299	TSS	462	480		6.5	7.2	1-Sep-09	30-Sep-09
VA0081299	TSS	608	905		9.0	13	1-Oct-09	31-Oct-09
VA0081299	TSS	769	1115		10	13	1-Nov-09	30-Nov-09
VA0081299	TSS	1166	2092		16	28	1-Dec-09	31-Dec-09
VA0081299	TSS	619	742		8.9	11	1-Jan-10	31-Jan-10
VA0081299	TSS	626	665		8.7	9.3	1-Feb-10	28-Feb-10
VA0081299	TSS	556	655		7.8	9.8	1-Mar-10	31-Mar-10
VA0081299	TSS	441	533		7.1	8.6	1-Apr-10	30-Apr-10
VA0081299	TSS	455	553		7.4	9.3	1-May-10	31-May-10
VA0081299	TSS	540	736		9.1	12	1-Jun-10	30-Jun-10
VA0081299	TSS	479	529		8.4	9.2	1-Jul-10	31-Jul-10
VA0081299	TSS	428	563		7.3	9.6	1-Aug-10	31-Aug-10
VA0081299	TSS	506	555		8.3	9.7	1-Sep-10	30-Sep-10
VA0081299	TSS	583	912		9.1	15	1-Oct-10	31-Oct-10
VA0081299	TSS	411	408		6.9	6.9	1-Nov-10	30-Nov-10
VA0081299	TSS	677	831		11	13	1-Dec-10	31-Dec-10
VA0081299	TSS	698	747		10	11	1-Jan-11	31-Jan-11
VA0081299	TSS	592	634		9.6	11	1-Feb-11	28-Feb-11
VA0081299	TSS	549	577		9.2	9.8	1-Mar-11	31-Mar-11
VA0081299	TSS	558	634		9.7	11	1-Apr-11	30-Apr-11
VA0081299	TSS	369	461		6.5	8.1	1-May-11	31-May-11
VA0081299	TSS	197	232		3.5	4.2	1-Jun-11	30-Jun-11
VA0081299	TSS	214	296		3.8	5.4	1-Jul-11	31-Jul-11

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Monitoring Start	Monitoring End
VA0081299	TSS	255	260		4.2	4.4	1-Aug-11	31-Aug-11
VA0081299	TSS	438	610		3	6	1-Sep-11	30-Sep-11
VA0081299	TSS	280	313		4.7	5	1-Oct-11	31-Oct-11
VA0081299	TSS	324	338		5.2	5.5	1-Nov-11	30-Nov-11
VA0081299	TSS	499	603		8.2	9.9	1-Dec-11	31-Dec-11
VA0081299	TSS	706	748		12	12	1-Jan-12	31-Jan-12
VA0081299	TSS						1-Feb-12	29-Feb-12

SALTWATER AND TRANSITION ZONES
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: HRSD Nansemond STP
Receiving Stream: Hampton Roads Harbor

Permit No.: VA0081299

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =		mg/l
90th % Temperature (Annual) =	26.2	(° C)
90th % Temperature (Winter) =		(° C)
90th % Maximum pH =	7.92	
10th % Maximum pH =	7.5	
Tier Designation (1 or 2) =	1	
Early Life Stages Present Y/N =	y	
Tidal Zone =	1	(1 = saltwater, 2 = transition zone)
Mean Salinity =	21.02	(g/kg)

Mixing Information

Design Flow (MGD)	30
Acute WLA multiplier	73
Chronic WLA multiplier	600
Human health WLA multiplier	600

Effluent Information

Mean Hardness (as CaCO3) =	65.8	mg/L
90 % Temperature (Annual) =		(° C)
90 % Temperature (Winter) =	20	(° C)
90 % Maximum pH =	7.31	SU
10 % Maximum pH =	6.6	SU
Discharge Flow =	15.88	MGD

Parameter	Background	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
(ug/l unless noted)	Conc.	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
Acenapthene	0	--	--	9.9E+02	--	--	5.9E+05	--	--	--	--	--	--	--	--	5.9E+05
Acrolein		--	--	9.3E+00	--	--	5.6E+03	--	--	--	--	--	--	--	--	5.6E+03
Acrylonitrile[C]		--	--	2.5E+00	--	--	1.5E+03	--	--	--	--	--	--	--	--	1.5E+03
Aldrin [C]	0	1.3E+00	--	5.0E-04	9.5E+01	--	3.0E-01	--	--	--	--	--	--	9.5E+01	--	3.0E-01
Ammonia-N (mg/l) - Annual	0	4.72E+00	6.71E-01	--	3.45E+02	4.03E+02	--	--	--	--	--	--	--	3.45E+02	4.03E+02	--
Ammonia-N (mg/l) - Winter	0	3.07E+01	4.54E+00	--	2.24E+03	2.72E+03	--	--	--	--	--	--	--	2.24E+03	2.72E+03	--
Anthracene	0	--	--	4.0E+04	--	--	2.4E+07	--	--	--	--	--	--	--	--	2.4E+07
Antimony	0	--	--	6.4E+02	--	--	3.8E+05	--	--	--	--	--	--	--	--	3.8E+05
Arsenic	0	6.9E+01	3.6E+01	--	5.0E+03	2.2E+04	--	--	--	--	--	--	--	5.0E+03	2.2E+04	--
Benzene [C]	0	--	--	5.1E+02	--	--	3.1E+05	--	--	--	--	--	--	--	--	3.1E+05
Benzidine[C]		--	--	2.0E-03	--	--	1.2E+00	--	--	--	--	--	--	--	--	1.2E+00
Benzo (a) anthracene [C]	0	--	--	1.8E-01	--	--	1.1E+02	--	--	--	--	--	--	--	--	1.1E+02
Benzo (b) fluoranthene [C]	0	--	--	1.8E-01	--	--	1.1E+02	--	--	--	--	--	--	--	--	1.1E+02
Benzo (k) fluoranthene [C]	0	--	--	1.8E-01	--	--	1.1E+02	--	--	--	--	--	--	--	--	1.1E+02
Benzo (a) pyrene [C]	0	--	--	1.8E-01	--	--	1.1E+02	--	--	--	--	--	--	--	--	1.1E+02
Bis2-Chloroethyl Ether[C]	0	--	--	5.3E+00	--	--	3.2E+03	--	--	--	--	--	--	--	--	3.2E+03
Bis2-Chloroisopropyl Ether	0	--	--	6.5E+04	--	--	3.9E+07	--	--	--	--	--	--	--	--	3.9E+07
Bis2-Ethylhexyl Phthalate[C]	0	--	--	2.2E+01	--	--	1.3E+04	--	--	--	--	--	--	--	--	1.3E+04
Bromoform [C]	0	--	--	1.4E+03	--	--	8.4E+05	--	--	--	--	--	--	--	--	8.4E+05
Butylbenzylphthalate	0	--	--	1.9E+03	--	--	1.1E+06	--	--	--	--	--	--	--	--	1.1E+06
Cadmium	0	4.0E+01	8.8E+00	--	2.9E+03	5.3E+03	--	--	--	--	--	--	--	2.9E+03	5.3E+03	--
Carbon Tetrachloride [C]	0	--	--	1.6E+01	--	--	9.6E+03	--	--	--	--	--	--	--	--	9.6E+03
Chlordane [C]	0	9.0E-02	4.0E-03	8.1E-03	6.6E+00	2.4E+00	4.9E+00	--	--	--	--	--	--	6.6E+00	2.4E+00	4.9E+00

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
TRC	0			--			--	--	--	--	--	--	--	--	--	--
Chlorine Prod. Oxidant	0	1.3E+01	7.5E+00	--	9.5E+02	4.5E+03	--	--	--	--	--	--	--	9.5E+02	4.5E+03	--
Chlorobenzene		--	--	1.6E+03	--	--	9.6E+05	--	--	--	--	--	--	--	--	9.6E+05
Chlorodibromomethane[C]	0	--	--	1.3E+02	--	--	7.8E+04	--	--	--	--	--	--	--	--	7.8E+04
Chloroform	0	--	--	1.1E+04	--	--	6.6E+06	--	--	--	--	--	--	--	--	6.6E+06
2-Chloronaphthalene	0	--	--	1.6E+03	--	--	9.6E+05	--	--	--	--	--	--	--	--	9.6E+05
2-Chlorophenol	0	--	--	1.5E+02	--	--	9.0E+04	--	--	--	--	--	--	--	--	9.0E+04
Chlorpyrifos	0	1.1E-02	5.6E-03	--	8.0E-01	3.4E+00	--	--	--	--	--	--	--	8.0E-01	3.4E+00	--
Chromium III	0			--			--	--	--	--	--	--	--	--	--	--
Chromium VI	0	1.1E+03	5.0E+01	--	8.0E+04	3.0E+04	--	--	--	--	--	--	--	8.0E+04	3.0E+04	--
Chrysene[C]	0	--	--	1.8E-02	--	--	1.1E+01	--	--	--	--	--	--	--	--	1.1E+01
Copper	0	9.3E+00	6.0E+00	--	6.8E+02	3.6E+03	--	--	--	--	--	--	--	6.8E+02	3.6E+03	--
Cyanide, Free	0	1.0E+00	1.0E+00	1.6E+04	7.3E+01	6.0E+02	9.6E+06	--	--	--	--	--	--	7.3E+01	6.0E+02	9.6E+06
DDD[C]	0	--	--	3.1E-03	--	--	1.9E+00	--	--	--	--	--	--	--	--	1.9E+00
DDE[C]	0	--	--	2.2E-03	--	--	1.3E+00	--	--	--	--	--	--	--	--	1.3E+00
DDT[C]	0	1.3E-01	1.0E-03	2.2E-03	9.5E+00	6.0E-01	1.3E+00	--	--	--	--	--	--	9.5E+00	6.0E-01	1.3E+00
Demeton	0	--	1.0E-01	--	--	6.0E+01	--	--	--	--	--	--	--	--	6.0E+01	--
Diazinon	0	8.2E-01	8.2E-01	--	6.0E+01	4.9E+02	--	--	--	--	--	--	--	6.0E+01	4.9E+02	--
Dibenz(a,h)anthracene[C]	0	--	--	1.8E-01	--	--	1.1E+02	--	--	--	--	--	--	--	--	1.1E+02
1,2-Dichlorobenzene	0	--	--	1.3E+03	--	--	7.8E+05	--	--	--	--	--	--	--	--	7.8E+05
1,3-Dichlorobenzene	0	--	--	9.6E+02	--	--	5.8E+05	--	--	--	--	--	--	--	--	5.8E+05
1,4-Dichlorobenzene	0	--	--	1.9E+02	--	--	1.1E+05	--	--	--	--	--	--	--	--	1.1E+05
3,3-Dichlorobenzidine[C]	0	--	--	2.8E-01	--	--	1.7E+02	--	--	--	--	--	--	--	--	1.7E+02
Dichlorobromomethane[C]	0	--	--	1.7E+02	--	--	1.0E+05	--	--	--	--	--	--	--	--	1.0E+05
1,2-Dichloroethane[C]	0	--	--	3.7E+02	--	--	2.2E+05	--	--	--	--	--	--	--	--	2.2E+05
1,1-Dichloroethylene	0	--	--	7.1E+03	--	--	4.3E+06	--	--	--	--	--	--	--	--	4.3E+06
1,2-trans-dichloroethylene	0	--	--	1.0E+04	--	--	6.0E+06	--	--	--	--	--	--	--	--	6.0E+06
2,4-Dichlorophenol	0	--	--	2.9E+02	--	--	1.7E+05	--	--	--	--	--	--	--	--	1.7E+05
1,2-Dichloropropane[C]	0	--	--	1.5E+02	--	--	9.0E+04	--	--	--	--	--	--	--	--	9.0E+04
1,3-Dichloropropene[C]	0	--	--	2.1E+02	--	--	1.3E+05	--	--	--	--	--	--	--	--	1.3E+05
Dieldrin[C]	0	7.1E-01	1.9E-03	5.4E-04	5.2E+01	1.1E+00	3.2E-01	--	--	--	--	--	--	5.2E+01	1.1E+00	3.2E-01
Diethyl Phthalate	0	--	--	4.4E+04	--	--	2.6E+07	--	--	--	--	--	--	--	--	2.6E+07
2,4-Dimethylphenol	0	--	--	8.5E+02	--	--	5.1E+05	--	--	--	--	--	--	--	--	5.1E+05
Dimethyl Phthalate	0	--	--	1.1E+06	--	--	6.6E+08	--	--	--	--	--	--	--	--	6.6E+08
Di-n-Butyl Phthalate	0	--	--	4.5E+03	--	--	2.7E+06	--	--	--	--	--	--	--	--	2.7E+06
2,4 Dinitrophenol	0	--	--	5.3E+03	--	--	3.2E+06	--	--	--	--	--	--	--	--	3.2E+06
2-Methyl-4,6-Dinitrophenol	0	--	--	2.8E+02	--	--	1.7E+05	--	--	--	--	--	--	--	--	1.7E+05
2,4-Dinitrotoluene[C]	0	--	--	3.4E+01	--	--	2.0E+04	--	--	--	--	--	--	--	--	2.0E+04
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	5.1E-08	--	--	3.1E-05	--	--	--	--	--	--	--	--	3.1E-05
1,2-Diphenylhydrazine[C]	0	--	--	2.0E+00	--	--	1.2E+03	--	--	--	--	--	--	--	--	1.2E+03
Alpha-Endosulfan	0	3.4E-02	8.7E-03	8.9E+01	2.5E+00	5.2E+00	5.3E+04	--	--	--	--	--	--	2.5E+00	5.2E+00	5.3E+04

Parameter	Background	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
(ug/l unless noted)	Conc.	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
Beta-Endosulfan	0	3.4E-02	8.7E-03	8.9E+01	2.5E+00	5.2E+00	5.3E+04	--	--	--	--	--	--	**2.5E+00**	**5.2E+00**	**5.3E+04**
Alpha + Beta Endosulfan	0	3.4E-02	8.7E-03	--	2.5E+00	5.2E+00	--	--	--	--	--	--	--	**2.5E+00**	**5.2E+00**	**--**
Endosulfan Sulfate	0	--	--	8.9E+01	--	--	5.3E+04	--	--	--	--	--	--	**--**	**--**	**5.3E+04**
Endrin	0	3.7E-02	2.3E-03	6.0E-02	2.7E+00	1.4E+00	3.6E+01	--	--	--	--	--	--	**2.7E+00**	**1.4E+00**	**3.6E+01**
Endrin Aldehyde	0	--	--	3.0E-01	--	--	1.8E+02	--	--	--	--	--	--	**--**	**--**	**1.8E+02**
Ethylbenzene	0	--	--	2.1E+03	--	--	1.3E+06	--	--	--	--	--	--	**--**	**--**	**1.3E+06**
Fluoranthene	0	--	--	1.4E+02	--	--	8.4E+04	--	--	--	--	--	--	**--**	**--**	**8.4E+04**
Fluorene	0	--	--	5.3E+03	--	--	3.2E+06	--	--	--	--	--	--	**--**	**--**	**3.2E+06**
Guthion	0	--	1.0E-02	--	--	6.0E+00	--	--	--	--	--	--	--	**--**	**6.0E+00**	**--**
Heptachlor [C]	0	5.3E-02	3.6E-03	7.9E-04	3.9E+00	2.2E+00	4.7E-01	--	--	--	--	--	--	**3.9E+00**	**2.2E+00**	**4.7E-01**
Heptachlor Epoxide [C]	0	5.3E-02	3.6E-03	3.9E-04	3.9E+00	2.2E+00	2.3E-01	--	--	--	--	--	--	**3.9E+00**	**2.2E+00**	**2.3E-01**
Hexachlorobenzene [C]	0	--	--	2.9E-03	--	--	1.7E+00	--	--	--	--	--	--	**--**	**--**	**1.7E+00**
Hexachlorobutadiene [C]	0	--	--	1.8E+02	--	--	1.1E+05	--	--	--	--	--	--	**--**	**--**	**1.1E+05**
Hexachlorocyclohexane Alpha-BHC [C]	0	--	--	4.9E-02	--	--	2.9E+01	--	--	--	--	--	--	**--**	**--**	**2.9E+01**
Hexachlorocyclohexane Beta-BHC [C]	0	--	--	1.7E-01	--	--	1.0E+02	--	--	--	--	--	--	**--**	**--**	**1.0E+02**
Hexachlorocyclohexane Gamma-BHC [C] (Lindane)	0	1.6E-01	--	1.8E+00	1.2E+01	--	1.1E+03	--	--	--	--	--	--	**1.2E+01**	**--**	**1.1E+03**
Hexachlorocyclopentadiene	0	--	--	1.1E+03	--	--	6.6E+05	--	--	--	--	--	--	**--**	**--**	**6.6E+05**
Hexachloroethane [C]	0	--	--	3.3E+01	--	--	2.0E+04	--	--	--	--	--	--	**--**	**--**	**2.0E+04**
Hydrogen Sulfide	0	--	2.0E+00	--	--	1.2E+03	--	--	--	--	--	--	--	**--**	**1.2E+03**	**--**
Indeno (1,2,3-cd) pyrene C	0	--	--	1.8E-01	--	--	1.1E+02	--	--	--	--	--	--	**--**	**--**	**1.1E+02**
Isophorone [C]	0	--	--	9.6E+03	--	--	5.8E+06	--	--	--	--	--	--	**--**	**--**	**5.8E+06**
Kepone	0	--	0.0E+00	--	--	0.0E+00	--	--	--	--	--	--	--	**--**	**0.0E+00**	**--**
Lead	0	2.4E+02	9.3E+00	--	1.8E+04	5.6E+03	--	--	--	--	--	--	--	**1.8E+04**	**5.6E+03**	**--**
Malathion	0	--	1.0E-01	--	--	6.0E+01	--	--	--	--	--	--	--	**--**	**6.0E+01**	**--**
Mercury	0	1.8E+00	9.4E-01	--	1.3E+02	5.6E+02	--	--	--	--	--	--	--	**1.3E+02**	**5.6E+02**	**--**
Methyl Bromide	0	--	--	1.5E+03	--	--	9.0E+05	--	--	--	--	--	--	**--**	**--**	**9.0E+05**
Methylene Chloride [C]	0	--	--	5.9E+03	--	--	3.5E+06	--	--	--	--	--	--	**--**	**--**	**3.5E+06**
Methoxychlor	0	--	3.0E-02	--	--	1.8E+01	--	--	--	--	--	--	--	**--**	**1.8E+01**	**--**
Mirex	0	--	0.0E+00	--	--	0.0E+00	--	--	--	--	--	--	--	**--**	**0.0E+00**	**--**
Nickel	0	7.4E+01	8.2E+00	4.6E+03	5.4E+03	4.9E+03	2.8E+06	--	--	--	--	--	--	**5.4E+03**	**4.9E+03**	**2.8E+06**
Nitrobenzene	0	--	--	6.9E+02	--	--	4.1E+05	--	--	--	--	--	--	**--**	**--**	**4.1E+05**
N-Nitrosodimethylamine [C]	0	--	--	3.0E+01	--	--	1.8E+04	--	--	--	--	--	--	**--**	**--**	**1.8E+04**
N-Nitrosodiphenylamine [C]	0	--	--	6.0E+01	--	--	3.6E+04	--	--	--	--	--	--	**--**	**--**	**3.6E+04**
N-Nitrosodi-n-propylamine [C]	0	--	--	5.1E+00	--	--	3.1E+03	--	--	--	--	--	--	**--**	**--**	**3.1E+03**
Nonylphenol	0	7.0E+00	1.7E+00	--	5.1E+02	1.0E+03	--	--	--	--	--	--	--	**5.1E+02**	**1.0E+03**	**--**
Parathion	0	--	--	--	--	--	--	--	--	--	--	--	--	**--**	**--**	**--**
PCB Total [C]	0	--	3.0E-02	6.4E-04	--	1.8E+01	3.8E-01	--	--	--	--	--	--	**--**	**1.8E+01**	**3.8E-01**
Pentachlorophenol [C]	0	1.3E+01	7.9E+00	3.0E+01	9.5E+02	4.7E+03	1.8E+04	--	--	--	--	--	--	**9.5E+02**	**4.7E+03**	**1.8E+04**

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
Phenol	0	--	--	8.6E+05	--	--	5.2E+08	--	--	--	--	--	--	--	--	5.2E+08
Phosphorus (Elemental)	0	--	1.0E-01	--	--	6.0E+01	--	--	--	--	--	--	--	--	6.0E+01	--
Pyrene	0	--	--	4.0E+03	--	--	2.4E+06	--	--	--	--	--	--	--	--	2.4E+06
Selenium	0	2.9E+02	7.1E+01	4.2E+03	2.1E+04	4.3E+04	2.5E+06	--	--	--	--	--	--	2.1E+04	4.3E+04	2.5E+06
Silver	0	1.9E+00	--	--	1.4E+02	--	--	--	--	--	--	--	--	1.4E+02	--	--
1,1,2,2-Tetrachloroethane[C]	0	--	--	4.0E+01	--	--	2.4E+04	--	--	--	--	--	--	--	--	2.4E+04
Tetrachloroethylene[C]	0	--	--	3.3E+01	--	--	2.0E+04	--	--	--	--	--	--	--	--	2.0E+04
Thallium	0	--	--	4.7E-01	--	--	2.8E+02	--	--	--	--	--	--	--	--	2.8E+02
Toluene	0	--	--	6.0E+03	--	--	3.6E+06	--	--	--	--	--	--	--	--	3.6E+06
Toxaphene[C]	0	2.1E-01	2.0E-04	2.8E-03	1.5E+01	1.2E-01	1.7E+00	--	--	--	--	--	--	1.5E+01	1.2E-01	1.7E+00
Tributyltin	0	4.2E-01	7.4E-03	--	3.1E+01	4.4E+00	--	--	--	--	--	--	--	3.1E+01	4.4E+00	--
1,2,4-Trichlorobenzene	0	--	--	7.0E+01	--	--	4.2E+04	--	--	--	--	--	--	--	--	4.2E+04
1,1,2-Trichloroethane[C]	0	--	--	1.6E+02	--	--	9.6E+04	--	--	--	--	--	--	--	--	9.6E+04
Trichloroethylene[C]	0	--	--	3.0E+02	--	--	1.8E+05	--	--	--	--	--	--	--	--	1.8E+05
2,4,6-Trichlorophenol[C]	0	--	--	2.4E+01	--	--	1.4E+04	--	--	--	--	--	--	--	--	1.4E+04
Vinyl Chloride[C]	0	--	--	2.4E+01	--	--	1.4E+04	--	--	--	--	--	--	--	--	1.4E+04
Zinc	0	9.0E+01	8.1E+01	2.6E+04	6.6E+03	4.9E+04	1.6E+07	--	--	--	--	--	--	6.6E+03	4.9E+04	1.6E+07

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. For transition zone waters, spreadsheet prints the lesser of the freshwater and saltwater water quality criteria.
6. Regular WLA = (WQC x WLA multiplier) - (WLA multiplier - 1)(background conc.)
7. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
8. Antideg. WLA = (Antideg. Baseline)(WLA multiplier) - (WLA multiplier - 1)(background conc.)

Metal	Site Specific Target Value (SSTV)
Antimony	3.8E+05
Arsenic III	2.0E+03
Cadmium	1.2E+03
Chromium III	#VALUE!
Chromium VI	1.8E+04
Copper	2.7E+02
Lead	3.3E+03
Mercury	5.3E+01
Nickel	2.2E+03
Selenium	8.5E+03
Silver	5.5E+01
Zinc	2.6E+03

Note: do not use QL's lower than the minimum QL's provided in agency guidance

FACILITY NAME: Nansemond STP **VPDES PERMIT NUMBER:** VA0081299

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

SCREENING INFORMATION

This application is divided into sections. Sections A pertain to all applicants. The applicability of Sections B, C and D depend on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Will this facility generate sewage sludge? _X_ Yes __No

   Will this facility derive a material from sewage sludge? _X_ Yes __No

   If you answered Yes to either, complete Section B (Generation Of Sewage Sludge Or Preparation Of A Material Derived From Sewage Sludge).

3. Will this facility apply sewage sludge to the land? __Yes _X_ No

   Will sewage sludge from this facility be applied to the land? _X_ Yes __No **as an alternative backup plan**

   If you answered No to both questions above, skip Section C.

   If you answered Yes to either, answer the following three questions:

   a. Will the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions?
   __Yes _X_ No

   b. Will sewage sludge from this facility be placed in a bag or other container for sale or give-away for application to the land? __Yes _X_ No

   c. Will sewage sludge from this facility be sent to another facility for treatment or blending? _X_ Yes __No

   If you answered No to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

   If you answered Yes to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? __Yes _X_ No

   If Yes, complete Section D (Surface Disposal).

SECTION A. GENERAL INFORMATION

All applicants must complete this section.

1. Facility Information.
   a. Facility name: Nansemond STP
   b. Contact person: Jamie Mitchell
      Title: Chief of Technical Services Division
      Phone: (757)460-4220
   c. Mailing address:
      Street or P.O. Box: 1436 Air Rail Avenue
      City or Town: Virginia Beach State: VA Zip: 23455
   d. Facility location:
      Street or Route #: 6909 Armstead Road
      County:
      City or Town: Suffolk State: VA Zip: 23435
   e. Is this facility a Class I sludge management facility? X Yes __No
   f. Facility design flow rate: 30 . mgd
   g. Total population served: 197608
   h. Indicate the type of facility:
      X Publicly owned treatment works (POTW)
      ___ Privately owned treatment works
      ___ Federally owned treatment works
      ___ Blending or treatment operation
      ___ Surface disposal site
      ___ Other (describe):

2. Applicant Information. If the applicant is different from the above, provide the following:
   a. Applicant name: Hampton Roads Sanitation District
   b. Mailing address:
      Street or P.O. Box: 1436 Air Rail Avenue
      City or Town: Virginia Beach State: VA Zip: 23455
   c. Contact person: Jamie Mitchell
      Title: Chief of Technical Services Division
      Phone: (757)460-4220
   d. Is the applicant the owner or operator (or both) of this facility?
      X owner X operator
   e. Should correspondence regarding this permit be directed to the facility or the applicant? (Check one)
      _____ facility X applicant

3. Permit Information.
   a. Facility's VPDES permit number (if applicable): VA0081299
   b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:

Permit Number:	Type of Permit:
VAD000765446	RCRA
60971	DEQ-Air Division

4. Indian Country. Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? __Yes X No If yes, describe:

5. Topographic Map. Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility:
   a. Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed.
   b. Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries.

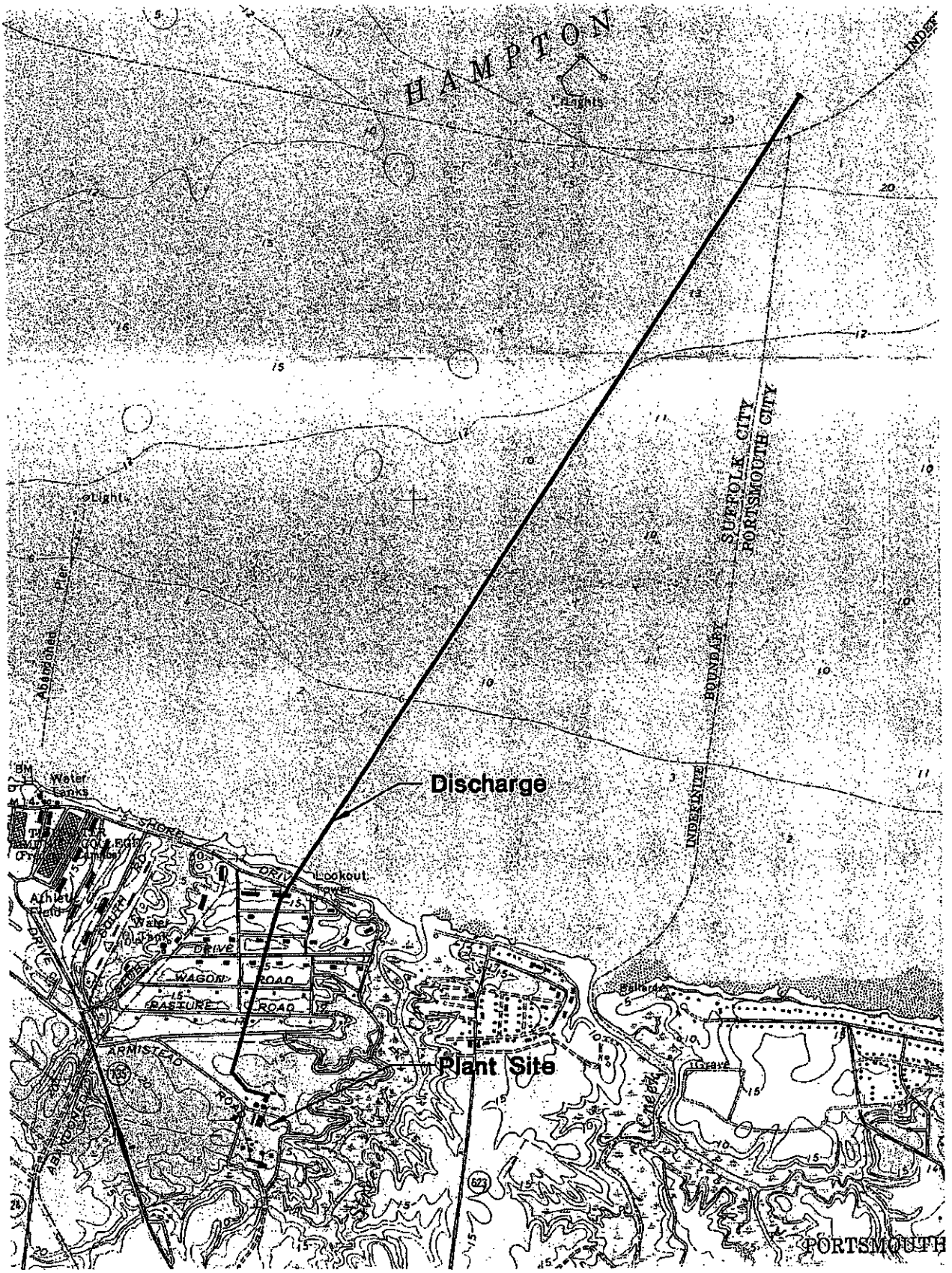
6. Line Drawing. Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction.

7. Contractor Information. Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? __Yes __X__No
   If yes, provide the following for each contractor (attach additional pages if necessary).
   Name: _____
   Mailing address:
   Street or P.O. Box: _____
   City or Town: _____State: Zip: _____
   Phone: _____
   Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:

   If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s). _____

8. Pollutant Concentrations. Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old. **See attached sheet.**

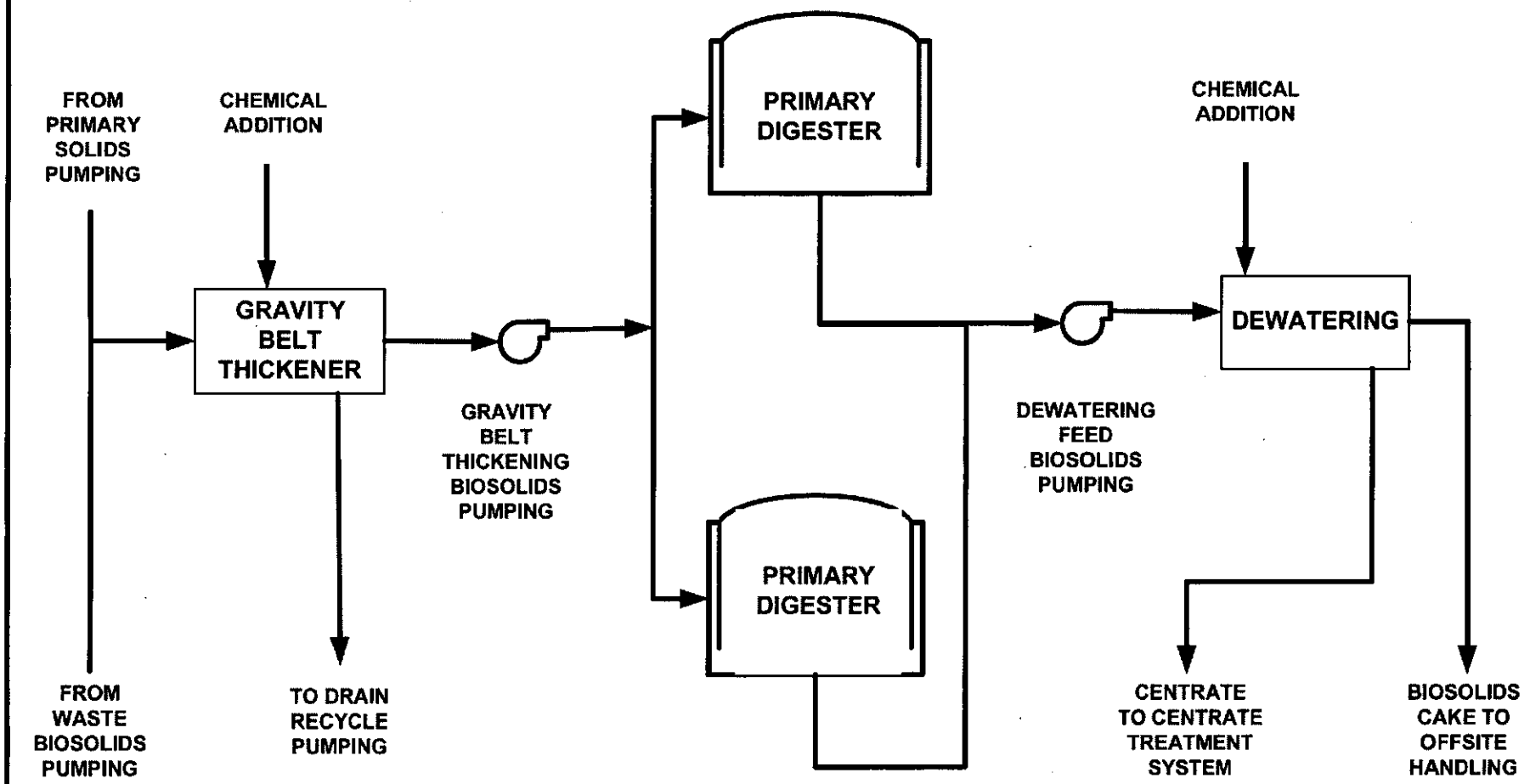
POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic				
Cadmium				
Chromium				
Copper				
Lead				
Mercury				
Molybdenum				
Nickel				
Selenium				
Zinc				



Location Map
for
Nansemond TP

June 2003 **Scale: 1"-2000'** **USGS Map Reference**

NANSEMOND TREATMENT PLANT
SOLIDS HANDLING FLOW DIAGRAM
HAMPTON ROADS SANITATION DISTRICT



Nansemond STP Biosolids Data VA0081299

Section 8.A - Pollutant Concentrations

Parameter	Se	As	Mo	Zn	Pb	Ni	Hg	Cu	Cd	Cr
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
1/5/11	3	<12	16	906	18	17	0.8	396	3	25
2/2/11	3	<14	13	806	17	13	0.8	347	<2.8	18
3/2/11	3	<14	11	716	13	12	0.7	303	3	16
4/6/11	3	<14	12	828	15	13	0.8	308	<2.7	17
5/4/11	3	<13	11	739	13	12	0.5	277	<2.7	15
6/1/11	4	<13	11	815	14	14	0.5	292	<2.7	16
7/6/11	4	<16	11	892	15	16	0.6	333	<2.6	18
8/3/11	3	<15	10	873	13	14	1.0	334	<2.5	18
9/7/11	3	<15	16	1010	23	22	1.0	417	<2.4	22
10/5/11	3	<16	13	884	22	21	0.5	378	<2.6	22
11/2/11	3	<16	11	873	19	19	0.7	364	<2.7	21
12/8/11	3	<17	11	773	16	18	0.4	317	3	17
Method	6020A	6010C	6010C	6010C	6010C	6010C	7471B	6010C	6010C	6010C
Report Limit (ug/l)	2.5	20	4	4	5	4	0.1	4	2	4

All values are on a dry weight basis.

9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

_X_ Section A (General Information)
_X_ Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)
___ Section C (Land Application of Bulk Sewage Sludge)
____ Section D (Surface Disposal)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title Edward G. Henifin, P.E. General Manager

Signature _____ Date Signed 2/6/2012

Telephone number 757-460-4242

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge

1. Amount Generated On Site.
   Total dry metric tons per 365-day period generated at your facility: 3575 dry metric tons

2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary. **Not applicable**
   a. Facility name:
   b. Contact Person:
      Title:
      Phone
   c. Mailing address:
      Street or P.O. Box:
      City or Town:_____ State:_____ Zip:_____
   d. Facility Address:
      (not P.O. Box)
   e. Total dry metric tons per 365-day period received from this facility: 0 in 2010 dry metric tons
   f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:

3. Treatment Provided at Your Facility.
   a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
      __Class A __X_Class B __Neither or unknown
   b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: Solids are digested between 15 days at 35 to 55 degrees Celsius and 60 days at 20 degrees Celsius
   c. Which vector attraction reduction option is met for the sewage sludge at your facility?
      ___ Option 1 (Minimum 38 percent reduction in volatile solids)
      ___ Option 2 (Anaerobic process, with bench-scale demonstration)
      ___ Option 3 (Aerobic process, with bench-scale demonstration)
      ___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
      ___ Option 5 (Aerobic processes plus raised temperature)
      ___ Option 6 (Raise pH to 12 and retain at 11.5)
      ___ Option 7 (75 percent solids with no unstabilized solids)
      ___ Option 8 (90 percent solids with unstabilized solids)
      _X_ None or unknown
   d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: If land applied, the solids are tested for VAR option 1. If 38% reduction is not met, then biosolids are incorporated into the soil within 6 hours of application. Land application is used only if incineration, composting or landfilling are not available.
   e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above:

4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge). **Not applicable**
   (If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)
   a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land:
      _____ dry metric tons
   b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?
      __Yes __No

5. Sale or Give-Away in a Bag or Other Container for Application to the Land. **Not applicable**
(Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.)
   a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land:_____ dry metric tons
   b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. Shipment Off Site for Treatment or Blending. **Alternative Plan-used if incineration, composting or landfilling is not available. See attached sheet for information regarding sending offsite for composting.**
(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)
   a. Receiving facility name: HRSD Atlantic STP
   b. Facility contact: Jamie Mitchell
      Title: Chief of Technical Services Division
      Phone: 757-460-4220
   c. Mailing address:
      Street or P.O. Box: 1436 Air Rail Avenue
      City or Town: Virginia Beach State: VA Zip: 23455
   d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: 0 dry metric tons
   e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number:	Type of Permit:
VA0081248	VPDES

   f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility? __Yes X No
      Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?
      __Class A __Class B X Neither or unknown
      Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:_____.
   g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? __Yes X No
      Which vector attraction reduction option is met for the sewage sludge at the receiving facility?
      __ Option 1 (Minimum 38 percent reduction in volatile solids)
      __ Option 2 (Anaerobic process, with bench-scale demonstration)
      __ Option 3 (Aerobic process, with bench-scale demonstration)
      __ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
      __ Option 5 (Aerobic processes plus raised temperature)
      __ Option 6 (Raise pH to 12 and retain at 11.5)
      __ Option 7 (75 percent solids with no unstabilized solids)
      __ Option 8 (90 percent solids with unstabilized solids)
      X None unknown
      Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge: Biosolids are incorporated into the soil within 6 hours if they do not meet VAR Option 1 requirements.
   h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
      X Yes __No
      If yes, describe, on this form or another sheet of paper, the treatment processes not identified in f or g above: Biosolids may be mixed with biosolids already on the storage pad at the Atlantic STP prior to land application.
   i. If you answered yes to f., g or h above, attach a copy of any information you provide to the receiving facility

to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.

j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? X Yes __No
If yes, provide a copy of all labels or notices that accompany the product being sold or given away.

k. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? X Yes ___ No. If no, provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.
Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported. Truck would travel 664S to 264E in Virginia Beach. Exit 264E at Birdneck Road and proceed to General Booth Boulevard. Turn left on Dam Neck Road and then take right at Bold Ruler Drive. Turn left on Firefall Drive and follow road to the end. Transport would be during daytime business hours.

7. Land Application of Bulk Sewage Sludge. **Not applicable**

(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6; complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:_____dry metric tons. 2010 estimate

b. Do you identify all land application sites in Section C of this application? __Yes __No
If no, submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).

c. Are any land application sites located in States other than Virginia? __Yes __No
If yes, describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

6. Shipment Off Site for Treatment or Blending. **Alternative Plan-used if incineration, land application or landfilling is not available**

(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

a. Receiving facility name: McGill Environmental Systems

b. Facility contact: Bob Broom
Title: Manager
Phone: 757-647-6052

c. Mailing address:
Street or P.O. Box: 5056 Beef Steak Road
City or Town: Waverly State: VA Zip: 23890

d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: 0 dry metric tons

e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number:	Type of Permit:
VDH BUR 154	Biosolids Use Facility Operation Permit

f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility? X Yes __No
Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?
X Class A __Class B __Neither or unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge: Positive aerated static pile indoor composting which blends amendments includeing yard waste, wood chips and wastewater treatment solids.

g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? X Yes __No
Which vector attraction reduction option is met for the sewage sludge at the receiving facility?
__ Option 1 (Minimum 38 percent reduction in volatile solids)
__ Option 2 (Anaerobic process, with bench-scale demonstration)
__ Option 3 (Aerobic process, with bench-scale demonstration)
__ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
X Option 5 (Aerobic processes plus raised temperature)
__ Option 6 (Raise pH to 12 and retain at 11.5)
__ Option 7 (75 percent solids with no unstabilized solids)
__ Option 8 (90 percent solids with unstabilized solids)
__ None unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge: Solids are treated in aerobic process for at least 14 days. During the time, the minimum temperature of the solids is higher than 40 degrees Celsius and the average temperature exceeds 45 degrees Celsius

j. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
X Yes __No
If yes, describe, on this form or another sheet of paper, the treatment processes not identified in f or g above: Compost is cured outdoors for approximately 30 days. It is remixed and placed in aerated windrows. Wood chips are screened out of the product before distribution.

k. If you answered yes to f., g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.

j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? X Yes __No
If yes, provide a copy of all labels or notices that accompany the product being sold or given away.

l. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? X Yes __ No. If no, provide description and specification on the vehicle used

Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported. Truck would travel down 664S and take entrance ramp to to Route 58W. Take exit for 460W to Waverly. Turn left on Cabin Point Road and turn onto Beef Steak Road.

7. Land Application of Bulk Sewage Sludge. **Not applicable**

(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6; complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:_____dry metric tons. 2010 estimate

b. Do you identify all land application sites in Section C of this application? ___Yes ___No
If no, submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).

c. Are any land application sites located in States other than Virginia? ___Yes ___No
If yes, describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

8. Surface Disposal. **Not applicable**

(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: _____ dry metric tons

b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
___Yes ___No
If no, answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.

c. Site name or number:

d. Contact person:
Title:
Phone: ( )
Contact is: ___Site Owner ___Site operator

e. Mailing address.
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons

g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:

Permit Number:	Type of Permit:
_____	
_____	

NOTICE AND NECESSARY INFORMATION (NANI)

Facility:	Nansemond Treatment Plant	
Biosolids Type:	Anaerobically Digested	
Monitoring Period:	From:	To:

A. **Pathogen Reduction (40 CFR.503.32) – Indicate the level achieved:**
Class B*

*Temperature between 35 degrees C to 55 degrees C (95 – 131 degrees F) at 15 days and 20 degrees C (68 degrees F) at 60 days.

Comments:

B. **Vector Attraction Reductions (40 CFR.503.33) – Indicate the option performed:**

- ☐ Option 1 Meet 38% reduction in volatile solids content
- ☐ Option 2 Demonstrate vector attraction reduction with additional anaerobic digestion in a bench-scale unit
- ☐ Option 3 Demonstrate vector attraction reduction with additional aerobic digestion in a bench-scale unit
- ☐ Option 4 Meet a specific oxygen uptake rate for aerobically digested biosolids
- ☐ Option 5 Compost processes at greater than 40°C for 14 days or longer.
- ☐ Option 6 Alkali addition under specified aconditions
- ☐ Option 7 Dry biosolids with unstabilized solids to at least 75 percent solids
- ☐ Option 8 Dry biosolids with unstabilized solids to at least 90 percent solids
- ☐ Option 9 Inject biosolids beneath the soil surface
- ☐ Option 10 Incorporate biosolids into the soil within 6 hours of application to or placement on the land

Comments:

C. **Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or these persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

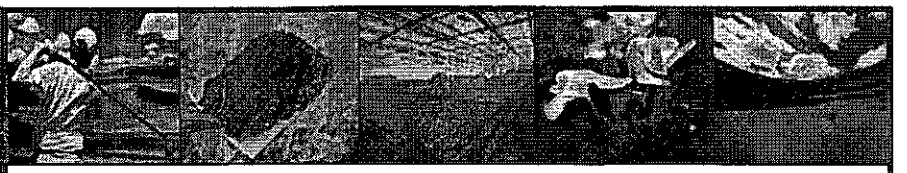
Name and Official Title:	**Area Code and Telephone Number:**
Signature:	**Date Signed:**

MONTHLY PLANT OPERATIONS REPORT
HAMPTON ROADS SANITATION DISTRICT

Nansemond
November, 2011
12/9/11 6:09 PM

	NUTRIENTS						SOLIDS			METALS													
	1	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	20	21	22	24	25	26	27
DATE	pH	T-P	NH3	NOX	ORG-N	TKN	TS	% VOL	Fixed Solids	As	Ag	Hg	Mo	Se	Cd	Cr	Cu	Fe	K	Mn	Ni	Pb	Zn
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%TS		%	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Tue-01																							
Wed-02	8.29	24600	11500	14	65700	77200	18.3	75	25.00	<16	<1.4	0.7	11	3	<2.7	21	364	19100	4410	154	19	19	873
Thu-03																							
Fri-04																							
Sat-05																							
Sun-06																							
Mon-07																							
Tue-08																							
Wed-09																							
Thu-10																							
Fri-11																							
Sat-12																							
Sun-13																							
Mon-14																							
Tue-15																							
Wed-16																							
Thu-17																							
Fri-18																							
Sat-19																							
Sun-20																							
Mon-21																							
Tue-22																							
Wed-23																							
Thu-24																							
Fri-25																							
Sat-26																							
Sun-27																							
Mon-28																							
Tue-29																							
Wed-30																							
TOTAL																							
MAX	8.29	24600	11500	0	65700	77200	18.3	75	25.00	0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0
MIN	8.29	24600	11500	0	65700	77200	18.3	75	25.00	0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0
AVG	8.29	24600	11500	0	65700	77200	18.3	75	25.00	0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0

McGILL
The compost people®



Soil Builder compost

100% quality compost for use as a top-dressing, soil amendment, or mix ingredient.

- Loose, even texture
- No chunks of wood or bark
- Deep brown in color
- Moist — not dry or soggy
- Pleasant, earthy aroma

Use up to 30% McGill *Soil Builder* compost in blends and mixes or up to 1/4 inch as a topdressing. As a soil amendment, apply 1 inch of compost for every 3-4 inches of desired incorporation depth.

USES

- Sports turf
- Landscaping and gardening
- Sediment and erosion control
- Hay and pasture
- Commercial fruit and vegetable production
- Container mixes
- Manufactured topsoil
- Landfill cover
- Constructed wetlands

McGill *Soil Builder*	BENEFIT
Holds water, drains faster	The addition of compost boosts the water-holding capacity of soils. Compost helps keep moisture at the root zone where your plants need it, but the physical properties of compost (loose and porous) also allow water to percolate quickly through the soil after heavy rains or overwatering.
Improves soil structure	High organic matter content, essential to many soil processes and the soil organisms which live there, has been show to boost yields while lowering input of chemicals.
High Cation Exchange Capacity (CEC or slow release)	Holds the nutrients you apply at the root zone and releases them slowly over time.
Neutral pH	pH influences nutrient availability and most plants prefer pH in the 6-7.5 range (7 is neutral).
Climate-controlled processing	Year-round availability. Produces a uniform, consistent product delivering predictable results.

www.mcgillcompost.com

Don't buy topsoil — make McGill soil!

McGILL
The compost people®

Traditionally, most development projects start with the stripping away of all topsoil. What remains is a subsoil of inferior quality, often incapable of maintaining healthy grasses and ornamentals. Make your own topsoil by blending one part McGill *Soil Builder* compost with two parts native soil.

1 in. of compost = 3 cubic yards/1000 sq. ft.
or 135 cubic yards/acre

US COMPOSTING COUNCIL
Seal of Testing Assurance

McGill Environmental Systems

P.O. Box 61
Harrells
NC 28444 (910) 532-2539

Product Identification	Compost
Chatham Soil Builder	

Date Sampled/Received: 28 May. 09 / 29 May. 09

COMPOST TECHNICAL DATA SHEET

LABORATORY: Soil Control Lab; 42 Hangar Way; Watsonville, CA 95076 *tel:* 831.724.5422 *fax:* 831.724.3188

Compost Parameters	*Reported as (units of measure)*	*Test Results*	*Test Results*
Plant Nutrients:	%, weight basis	Not reported	Not reported
Moisture Content	%, wet weight basis	35.2	
Organic Matter Content	%, dry weight basis	34.0	
pH	units	7.71	
Soluble Salts *(electrical conductivity EC_s)*	dS/m (mmhos/cm)	7.1	
Particle Size or Sieve Size	maximum aggregate size, inches	0.38	
Stability Indicator *(respirometry)*			*Stability Rating:*
CO_2 Evolution	mg CO_2-C/g OM/day	1.8	Very Stable
	mg CO_2-C/g TS/day	0.61	
Maturity Indicator (bioassay)			
Percent Emergence	average % of control	100.0	
Relative Seedling Vigor	average % of control	100.0	
Select Pathogens	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a)	Pass	*Fecal coliform*
		Pass	*Salmonella*
Trace Metals	PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3.	Pass	*As,Cd,Cr,Cu,Pb,Hg* Mo,Ni,Se,Zn

Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.

Laboratory Group: May.09 E Laboratory Number: 9050803-1/1

Analyst: Assaf Sadeh www.compostlab.com

McGill Soil Builder, the base ingredient of all McGill product formulations, is certified under the U.S. Composting Council Seal of Testing Assurance (STA) program. For more about the STA, contact your McGill representative.

McGill *Soil Builder* compost

Building healthy soil is an ongoing process. By making healthy soil a focus at the beginning, you will have a head start on creating a sustainable organic growing media.

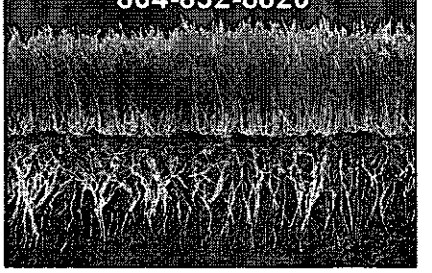
- Compost distributes water laterally as well as vertically
- Compost holds moisture and nutrients at the root zone
- Compost adds pore space to promote drainage
- Compost creates a welcoming environment for earthworms and beneficial microbes

COMPOST SALES

Carolina Coast
910-532-2539

Carolina Piedmont
919-362-1161

Mid-Atlantic
804-832-8820



9. Incineration. **Primary method of biosolids disposal**

(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: 3575 dry metric tons 2011 estimate

b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired? X Yes ___No

If no, answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.

c. Incinerator name or number:

d. Contact person:
Title:
Phone: ( )
Contact is: ___Incinerator Owner ___Incinerator Operator

e. Mailing address.
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: _____ dry metric tons

g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing of sewage sludge at this incinerator:

Permit Number:	Type of Permit:

10. Disposal in a Municipal Solid Waste Landfill. **Alternative Plan used if incineration, composting, or land application is not available.**

(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)

a. Landfill name: Bethel Landfill

b. Contact person: Howard Burns
Title: Landfill Supervisor
Phone: (757)766-3033
Contact is: X Landfill Owner ___Landfill Operator

c. Mailing address.
Street or P.O. Box: 100 North Park Lane
City or Town: Hampton State: VA Zip: 23666

d. Landfill location.
Street or Route #: 100 North Park Lane
County:
City or Town: Hampton State: VA Zip: 23666

e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill: 0 dry metric tons 2010 estimate

f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:

Permit Number:	Type of Permit:
580	DEQ- Solid Waste Division

g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill? X Yes ___No

h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? X Yes ___No

i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? X Yes ___ No
Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported. Biosolids would be transported via 664 to 64 until exit 261. Turn right on Big Bethel Road and turn left on North Park Lane. Transport would occur during daytime business hours of the landfill.

SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

Complete this section for sewage sludge that is land applied unless any of the following conditions apply:
The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or
The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or
You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).
Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.

1. Identification of Land Application Site. **Not applicable**
   a. Site name or number:
   b. Site location (Complete i and ii)
      i. Street or Route#:
      County:
      City or Town: __State: _____ Zip:
      ii. Latitude:_____Longitude:
      Method of latitude/longitude determination
      _____ USGS map _____ Filed survey _____ Other
   b. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

2. Owner Information.
   a. Are you the owner of this land application site? __Yes __X__No
   b. If no, provide the following information about the owner:
      Name:
      Street or P.O. Box:
      City or Town: _____ State:_____ Zip:
      Phone: ( )

3. Applier Information:
   a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site? __X__Yes __No
   b. If no, provide the following information for the person who applies the sewage sludge:
      Name:
      Street or P.O. Box:
      City or Town:_____ State:_____ Zip:
      Phone: ( )
   c. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:

Permit Number:	Type of Permit:
_____	_____
_____	_____
_____	_____

4. Site Type. Identify the type of land application site from among the following:
   __Agricultural land __Reclamation site __Forest
   __Public contact site __Other. Describe

5. Vector Attraction Reduction.
   Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?
   ____Yes ____No If yes, answer a and b.
   a. Indicate which vector attraction reduction option is met:
      ___ Option 9 (Injection below land surface)
      ___ Option 10 (Incorporation into soil within 6 hours)
   b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:

6. Cumulative Loadings and Remaining Allotments.

(Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.)

a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? ___Yes ___No
If no, sewage sludge subject to the CPLRs may not be applied to this site.
If yes, provide the following information:
Permitting authority:
Contact person:
Phone:( )

b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? ___Yes ___No If no, skip the rest of Question 6. If yes, answer questions c - e.

c. Site size, in hectares: _____ (one hectare = 2.471 acres)

d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.
Facility name:
Facility contact:
Title:
Phone: ( )
Mailing address.
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

	Cumulative loading	Allotment remaining
Arsenic	_____	
Cadmium	_____	
Copper	_____	
Lead	_____	
Mercury	_____	
Nickel	_____	
Selenium	_____	
Zinc	_____	

Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation.

7. Sludge Characterization. Use the table below or a separate attachment, provide at least one analysis for each parameter.

PCBs (mg/kg)
pH (S. U.)
Percent Solids (%)
Ammonium Nitrogen (mg/kg)
Nitrate Nitrogen (mg/kg)
Total Kjeldahl Nitrogen (mg/kg)
Total Phosphorus (mg/kg)
Total Potassium (mg/kg)
Alkalinity as $CaCO_3^*$ (mg/kg)

* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent $CaCO_3$.

8. Storage Requirements.

Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.

Proposed sludge storage facilities must also provide the following information:

a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.
   1) Water wells, abandoned or operating
   2) Surface waters
   3) Springs
   4) Public water supply(s)
   5) Sinkholes
   6) Underground and/or surface mines
   7) Mine pool (or other) surface water discharge points
   8) Mining spoil piles and mine dumps
   9) Quarry(s)
   10) Sand and gravel pits
   11) Gas and oil wells
   12) Diversion ditch(s)
   13) Agricultural drainage ditch(s)
   14) Occupied dwellings, including industrial and commercial establishments
   15) Landfills or dumps
   16) Other unlined impoundments
   17) Septic tanks and drainfields
   18) Injection wells
   19) Rock outcrops

b. A topographic map of sufficient detail to clearly show the following information:
   1) Maximum and minimum percent slopes
   2) Depressions on the site that may collect water
   3) Drainageways that may attribute to rainfall run-on to or runoff from this site
   4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding

c. Data and specifications for the storage facility lining material.

d. Plan and cross-sectional views of the storage facility.

e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. Land Area Requirements. Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.

10. Landowner Agreement Forms. Provide a properly completed Sewage Sludge Application Agreement Form (attached) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

11. Ground Water Monitoring.

Are any ground water monitoring data available for this land application site? __Yes __No

If yes, submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

12. Land Application Site Information.

(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)

a. Provide a general location map for each county which clearly indicates the location of all the land application sites.

b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.

c. In order to ensure that land application of bulk sewage sludge will not impact federally listed threatened or endangered species or federally designated critical habitat, the applicant must notify the field office of the U. S. Department of the Interior, Fish and Wildlife Service (FWS), by a letter, the proposed land application activities with the identification of the land application sites. The address and phone number of FWS are provided below.

U. S. Fish and Wildlife Service
Virginia Field Office
P. O. Box 480
White Marsh, VA 23183
TEL: (804)693-6694

Provide a copy of the notification letter with this application form.

d. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)
Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions shall include as a minimum the following information.

1) Soil symbol
2) Soil series, textural phase and slope range
3) Depth to seasonal high water table
4) Depth to bedrock
5) Estimated soil productivity group (for the proposed crop rotation)

Item e - h are required for sites receiving frequent application of sewage sludge

e. In order to verify the information provided in item d, characterize the soil at each land application site. Representative soil borings or test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for the typifying pedon of each soil series (soil type). Soil descriptions shall include as a minimum the following information:

1). Soil symbol
2). Soil series, textural phase and slope range
3). Depth to seasonal high water table
4). Depth to bedrock
5). Estimated soil productivity group (for the proposed crop rotation)

f. Collect and analyze soil samples from each field, weighted to best represent each of the soil borings performed for Item e. Using the table below or a separate attachment, provide at least one analysis per sample for each of the following parameters.

Soil Organic Matter (%)
Soil pH (std. units)
Cation Exchange Capacity (meq/100g)
Total Nitrogen (ppm)
Organic Nitrogen (ppm)
Ammonia Nitrogen (ppm)
Nitrate Nitrogen (ppm)
Available Phosphorus (ppm)
Exchangeable Potassium (mg/100g)
Exchangeable Sodium (mg/100g)
Exchangeable Calcium (mg/100g)
Exchangeable Magnesium (mg/100g)
Arsenic (ppm)
Cadmium (ppm)
Copper (ppm)
Lead (ppm)
Mercury (ppm)
Molybdenum (ppm)
Nickel (ppm)
Selenium (ppm)
Zinc (ppm)
Manganese (ppm)
Particle Size Analysis or
USDA Textural Estimate (%)

g. Relate the crop nutrient needs to anticipated yields, soil productivity rating and the various fertilizer or nutrient sources from sludge and chemical fertilizers. Describe any specialized agronomic management practices which may be required as a result of high soil pH. If the sludge is expected to possess an unusually high CCE or other unusual properties, provide a description of any plant tissue testing, supplemental fertilization or intensive agronomic management practices which may be necessary.

h. Using a narrative format and referencing any related charts, describe the proposed cropping system. Show how the crop rotation and management will be coordinated with the design of the land application system. Include any supplemental fertilization program, soil testing and the coordination of tillage practices, planting and harvesting schedules and timing of land application.

SECTION D. SURFACE DISPOSAL **Not Applicable**

Complete this section only if you own or operate a surface disposal site. Provide the information for each active sewage sludge unit.

1. Information on Active Sewage Sludge Units.
   a. Unit name or number:
   b. Unit location
      i. Street or Route#:
      County:
      City or Town: _____ State: _____ Zip:
      ii. Latitude:_____ Longitude:
      Method of latitude/longitude determination
      _____ USGS map _____ Filed survey _____ Other
   c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.
   d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period: _____dry metric tons.
   e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit: _____ dry metric tons.
   f. Does the active sewage sludge unit have a liner with a minimum hydraulic conductivity of 1×10^{-7}cm/sec? ___Yes ___No If yes, describe the liner or attach a description.

   g. Does the active sewage sludge unit have a leachate collection system? ___Yes ___No
   If yes, describe the leachate collection system or attach a description. Also, describe the method used for leachate disposal and provide the numbers of any federal, state or local permits for leachate disposal:

   h. If you answered no to either f or g, answer the following:
   Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site? ___Yes ___No If yes, provide the actual distance in meters:
   i. Remaining capacity of active sewage sludge unit, in dry metric tons:_____ dry metric tons
   Anticipated closure date for active sewage sludge unit, if known:_____ (MM/DD/YYYY)
   Provide with this application a copy of any closure plan developed for this active sewage sludge unit.

2. Sewage Sludge from Other Facilities.
   Is sewage sludge sent to this active sewage sludge unit from any facilities other than yours? ___Yes ___No
   If yes, provide the following information for each such facility, attach additional sheets as necessary.
   a. Facility name:
   b. Facility contact:
      Title:
      Phone: ( )
   c. Mailing address.
      Street or P.O. Box:
      City or Town:_____ State:_____ Zip:
   d. List, on this form or an attachment, the facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the facility's sewage sludge management practices:
      Permit Number: Type of Permit:
      _____
      _____
   e. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?
      ___Class A ___Class B ___Neither or unknown
   f. Describe, on this form or on another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge:

g. Which vector attraction reduction option is achieved before sewage sludge leaves the other facility?
- ___ Option 1 (Minimum 38 percent reduction in volatile solids)
- ___ Option 2 (Anaerobic process, with bench-scale demonstration)
- ___ Option 3 (Aerobic process, with bench-scale demonstration)
- ___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
- ___ Option 5 (Aerobic processes plus raised temperature)
- ___ Option 6 (Raise pH to 12 and retain at 11.5)
- ___ Option 7 (75 percent solids with no unstabilized solids)
- ___ Option 8 (90 percent solids with unstabilized solids)
- ___ None or unknown

h. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce vector attraction properties of sewage sludge:

i. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in e - h above:

3. Vector Attraction Reduction.

a. Which vector attraction reduction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?
- ___ Option 9 (Injection below land surface)
- ___ Option 10 (Incorporation into soil within 6 hours)
- ___ Option 11 (Covering active sewage sludge unit daily)

b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge:

4. Ground Water Monitoring.

a. Is ground water monitoring currently conducted at this active sewage sludge unit or are ground water monitoring data otherwise available for this active sewage sludge unit? ___Yes ___No
If yes, provide a copy of available ground water monitoring data. Also provide a written description of the well locations, the approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

b. Has a ground water monitoring program been prepared for this active sewage sludge unit?
___Yes ___No If yes, submit a copy of the ground water monitoring program with this application.

c. Have you obtained a certification from a qualified ground water scientist that the aquifer below the active sewage sludge unit has not been contaminated? ___Yes ___No
If yes, submit a copy of the certification with this application.

5. Site-Specific Limits.

Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?
___Yes ___No If yes, submit information to support the request for site-specific pollutant limits with this application.

ATTACHMENT 7

SPECIAL CONDITIONS RATIONALE

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE

Name of Condition:

B. Additional Total Residual Chlorine (TRC) Limitations and Monitoring Requirements

Rationale: Required by Water Quality Standards, 9VAC 25-260-170, Fecal coliform bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.

C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1.a. Sludge Reopener

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-220 C., and 40 CFR 122.44 (c)(4), which note that all permits for domestic sewage treatment plants (including sludge-only facilities) include any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the Clean Water Act.

1.b. Water Quality Standards Reopener

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-220 D requires effluent limitations to be established which will contribute to the attainment or maintenance of water quality criteria.

1.c. Nutrient Reopener

Rationale: 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

1.d. Nutrient Removal Facilities Reopener

Rationale: 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

1.e. Total Maximum Daily Load (TMDL) Reopener

Rationale: For specified waters, section 303(d) of the Clean Water Act requires the development of total maximum daily loads necessary to achieve the applicable water quality standards. The TMDL must take into account seasonal variations and a margin of safety. In addition, section 62.1-44.19:7 of the State Water Control Law requires the development and implementation of plans to address impaired waters, including TMDLs. This condition allows for the permit to be either modified or, alternatively, revoked and reissued to incorporate the requirements of a TMDL once it is developed. In addition, the reopener recognizes that, in according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other wasteload allocation prepared under section 303 of the Act.

2. Licensed Operator Requirement

Rationale: The Permit Regulation, 9 VAC 25-31-200 D and Code of Virginia 54.1-2300 et. seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators.

3. Reliability Class

Rationale: Required by Sewage Collection and Treatment Regulations, 12 VAC 5-581-20 and 120 for all municipal facilities.

4. CTC, CTO and O & M Manual Requirements

Rationale: Required by the State Water Control Law, Section 62.1-44.19; the Sewage Collection and Treatment Regulations (12 VAC 5-581 et seq); Section 401 of the Clean Water Act; 40 CFR 122.41(e); and the VPDES Permit Regulation (9 VAC-25-31-190E).

5. 95% Design Capacity Notification

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-200 B.2. for all POTW and PVOTW permits. Best professional judgement is used to apply this condition to other (private) municipal treatment facilities.

6. Quantification Levels Under Part I.A.

Rationale: States are authorized to establish monitoring methods and procedures to compile and analyze data on water quality, as per 40 CFR part 130, Water Quality Planning and Management, subpart 130.4.

7. Compliance Reporting Under Part I.A.

Rationale: Defines reporting requirements for toxic parameters with quantification levels and other limited parameters to ensure consistent, accurate reporting on submitted reports.

8. Effluent Monitoring Frequencies

Rationale: The incentive for reduced monitoring is an effort to reduce the cost of environmental compliance and to provide incentives to facilities which demonstrate outstanding performance and consistent compliance with their permits. Facilities which cannot comply with specific effluent parameters or have other related violations will not be eligible for this benefit. This is in conformance with Guidance Memorandum No. 98-2005 - Reduced Monitoring and EPA's proposed "Interim Guidance For Performance-Based Reduction of NPDES Permit Monitoring Frequencies" (EPA 833-B-96-001) published in April 1996.

9. Indirect Dischargers

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B.1. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

10. Total Phosphorus/Total Nitrogen-Nutrient reporting calculations

Rationale: §62.1-44.19:13 of the Code of Virginia defines how annual nutrient loads are to be calculated; this is carried forward in 9 VAC 25-820-70. As annual concentrations (as opposed to loads) are limited in the individual permit, this special condition is intended to reconcile the reporting calculations between the permit programs, as the permittee is collecting a single set of samples for the purpose of ascertaining compliance with two permits.

11. Suspension of concentration limits for E3/E4 facilities

Rationale: 9 VAC 25-40-70 B authorizes DEQ to approve an alternate compliance method to the technology-based effluent concentration limitations as required by subsection A of this section. Such alternate compliance method shall be incorporated into the permit of an Exemplary Environmental Enterprise (E3) facility or an Extraordinary Environmental Enterprise (E4) facility to allow the suspension of applicable technology-based effluent concentration limitations during the period the E3 or E4 facility has a fully implemented environmental management system that includes operation of installed nutrient removal technologies at the treatment efficiency levels for which they were designed.

12. Sludge Management Plan

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-420, and 40 CFR 503.1 specify the purpose and applicability for sludge management plans. The VPDES Permit Regulation, 9 VAC 25-31-100 J.4., also sets forth certain detailed information which must be included in a sludge management plan. The VPDES sewage sludge permit application form and its attachments constitute the sludge management plan and will be considered for approval with the VPDES permit. In addition, the Biosolids Use Regulation, 12 VAC 5-585-330 and 340, specifies the general purpose and control requirements for an O&M manual in order to facilitate proper O&M of the facilities to meet the requirements of the regulation.

D. PRETREATMENT

Rationale: The permit regulation, 9 VAC 25-31-10 et seq., Part VII, establishes the legal requirements for State, local government and industry to implement National Pretreatment Standards. The Pretreatment Standards are implemented to prevent POTW plant pass through, interference, violation of water quality standards or contamination of sewage sludge. The regulation requires POTWs with a total design flow greater than 5 MGD with significant or categorical industrial input to establish a Pretreatment Program. The regulation also may apply to POTWs with design flows less than 5 MGD if circumstances warrant control of industrial discharges.

E. TOXICS MANAGENENT PROGRAM (TMP)

Rationale: To determine the need for pollutant specific and/or whole effluent toxicity limits as may be required by the VPDES Permit Regulation, 9 VAC 25-31-220 D. and 40 CFR 122.44 (d). See Attachment 9 of this fact sheet for additional justification.

ATTACHMENT 8

TOXICS MONITORING/TOXICS REDUCTION/ WET LIMIT RATIONALE

MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TIDEWATER REGIONAL OFFICE

5636 Southern Boulevard Virginia Beach, VA 23462

SUBJECT: Toxics Management Program (TMP) testing for HRSD-Nansemond Plant (VA0081299)

TO: File

FROM: Deanna Austin

DATE: 3/7/12

COPIES:

HRSD-Nansemond plant is a major municipal discharger (design flow 30 MGD) of treated domestic sewage. Discharge from outfall 001 to the Hampton Roads Harbor (near Craney Island), near the confluence of the Chesapeake Bay and the Nansemond river mouth, will continue to be monitored for toxicity during this permit term.

There has been no change in the dilution from the previous permit; therefore the nearfield (acute) dilution factor (73) remains the same. The following calculation shows how the TU_a was derived.

Acute dilution = $100/IWC_a$

73= 100/IWCa

$100/73 = 1.37\%\ IWC_a$

$LC_{50=}$ IWC/Acute Water Quality Instream criterion

$LC_{50=}$ 1.37/0.3 = 4.57% (round to 5% effluent)

$TU_a = 1/LC_{50} \times 100$

1/5 x 100 =20

$TU_a = 20$

The following table details the results of the TMP tests for the last permit term. Since all data met the LC_{50}, a WET limit is not needed at this time and annual TMP testing should continue as required due to the size of the treatment plant.

OUTFALL	SPECIES	Sample Date	LC50	SURVIVAL in 11.2% Effluent	TU	LAB
001	A.b.	2/5/07	>11.2	100	<8.9	HRSD
001	A.b.	11/30/11	>11.2	100	<8.9	HRSD
001	A.b.	11/16/10	>11.2	100	<8.9	HRSD
001	A.b.	8/11/09	>11.2	100	<8.9	HRSD
001	A.b.	9/16/08	>11.2	100	<8.9	HRSD

001	C.v.	2/5/07	>11.2	100	<8.9	HRSD
001	C.v.	11/30/11	>11.2	100	<8.9	HRSD
001	C.v.	11/16/10	>11.2	100	<8.9	HRSD
001	C.v.	8/11/09	>11.2	100	<8.9	HRSD
001	C.v.	9/16/08	>11.2	100	<8.9	HRSD

C.v. - *Cyprinodon variegatus*
A.b. - *Americamysis bahia*

The following TMP language is recommended for the reissuance of the HRSD Nansemond permit (VA0081299).

E. TOXICS MANAGEMENT PROGRAM (TMP)

1. Biological Monitoring

a. In accordance with the schedule in 2. below, the permittee shall conduct annual acute toxicity tests for the duration of the permit. The permittee shall collect 24-hour flow-proportioned composite samples of final effluent from outfall 001 in accordance with Part 1.A. of this permit. The acute tests to use are:

48 Hour Static Acute test using Americamysis bahia and
48 Hour Static Acute test using Cyprinodon variegatus

These acute tests shall be performed with a minimum of 5 dilutions, derived geometrically, for the calculation of a valid LC_{50}. Express the results as TU_a (Acute Toxic Units) by dividing 100/ LC_{50} for reporting. Both species should be analyzed at the same time from the 24-hour flow-proportioned composite sample.

Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

b. The permittee may provide additional samples to address data variability during the period of initial data generation. These data shall be reported and may be included in the evaluation of the effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

c. The test dilutions shall be able to determine compliance with the following endpoints:

(1) Acute LC_{50} of $\geq$5% equivalent to a TU_a of $\leq$ 20

d. All applicable data will be evaluated for reasonable potential at the conclusion of the test period. The data may be evaluated sooner if requested by the permittee, or if toxicity has been noted. Should evaluation of the data indicate that a limit is needed, a WET limit and compliance schedule will be required and the toxicity tests of E.1.a. may be discontinued. Permit specific limits in lieu of a WET limit may be added, should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity of the effluent.

2. Reporting Schedule

The permittee shall report the results and supply **one** complete copy of the toxicity test reports to the Tidewater

Regional Office in accordance with the schedule below. A complete report must contain a copy of all the laboratory benchsheets, certificates of analysis, and all chain of custodies.

(a)	**Conduct first annual TMP test for outfall 001 using Americamysis bahia and Cyprinodon variegatus**	**By December 31, 2013**
(b)	**Submit results of all biological tests**	**Within 60 days of the sample date and no later than January 10, 2014**
(c)	**Conduct subsequent annual TMP tests for outfall 001 using Americamysis bahia and Cyprinodon variegatus**	**By December 31, 2014, 2015, and 2016**
(d)	**Submit subsequent annual biological tests**	**Within 60 days of the sample date and no later than January 10, 2015, 2016, and 2017**

ATTACHMENT 9

RECEIVING WATERS INFO.
TIER DETERMINATION/303(d) LIST INFO./
STREAM MODELING

TMDL Permit Review

Date: 2/22/2012

To: Jennifer Howell, TRO √ JSH 3/8/2012

Permit Writer: Deanna Austin

Facility: HRSD-Nansemond STP

Permit Number: VA0081299

New or Renewal: Renewal

Permit Expiration Date: 11/29/2012

Waterbody ID: VAT G11 E (Hampton Roads Harbor)-Outfall 001 VAT G11 E (Streeter Creek to Hampton Roads Harbor) Outfalls 002-007 stormwater outfalls

Topo Name: 035B Newport News South

Facility Address 6909 Armstead Road, Suffolk VA 23435

Receiving Stream:

Stream Name: Hampton Roads Harbor-Outfall 001	
Click here to enter text.	
Stream Data Requested? Click here to enter text.	
Outfall #: 001	**Lat Lon: 36 56 00 76 23 44**
Stream Name (2): Streeter Creek to Hampton Roads Harbor Outfalls 002-006	
All stormwater outfalls are not monitored-No Exposure Certifications have been given	
Stream Data Requested? Click here to enter text.	
Outfall #: 002	**Lat Lon: 36 53 45 76 25 58**
Outfall #: 003	**Lat Lon: 36 53 40 76 25 53**
Outfall #: 004	**Lat Lon: 36 53 42 76 25 44**
Outfall #: 005	**Lat Lon: 36 53 49 76 25 38**
Outfall #: 006	**Lat Lon: 36 53 58 76 25 32**
Outfall # 007	**Lat Lon: 36 53 40 76 25 48**

Is there a design flow change? If yes give the change. No change

TMDL Review:

Has a TMDL been approved that includes the receiving stream?	
Yes, see below. Both receiving streams fall within the same Chesapeake Bay segment, JMSMH.	
If yes, Include TMDL Name, Pollutant(s) and date of approval:	
Chesapeake Bay TMDL EPA approved 12/29/2010 : nitrogen, phosphorus, and TSS	
Is the facility assigned a WLA from the TMDL?	**No**
If Yes, what is the WLA?	
VA0081299 was listed in the Chesapeake Bay TMDL under Bay segment JMSMH as a non-significant discharger. Because an aggregated WLA exists, this permit did not receive an individual WLA. The aggregated WLA is presented as a delivered load for each of the impaired 92 Bay segments. (Appendix Q)	

Review will be completed in 30 days of receipt of request.

Additional Comments:

A PCB TMDL has an anticipated completion date of 2014 and includes these receiving streams

Planning Permit Review

Date: 2/22/2012

To: Kristie Britt, TRO

Permit Writer: Deanna Austin

Facility: HRSD-Nansemond STP

Permit Number: VA0081299

New or Renewal: Renewal

Permit Expiration Date: 11/29/2012

Waterbody ID: VAT G15 E (Hampton Roads Harbor)-Outfall 001 VAT G15 E (Streeter Creek to Hampton Roads Harbor) Outfalls 002-007 stormwater outfalls

Topo Name: **035B Newport News South**

Facility Address 6909 Armistead Road, Suffolk VA 23435

Receiving Stream:

Stream Name: James River-Outfall 001	
Stream Data Requested?	
Outfall #: 001	**Lat Lon: 36 56 00 76 23 44**
Stream Name (2): Streeter Creek to Hampton Roads Harbor Outfalls 002-006	
All stormwater outfalls are not monitored-No Exposure Certifications have been given	
Stream Data Requested?	
Outfall #: 002	**Lat Lon: 36 53 45 76 25 58**
Outfall #: 003	**Lat Lon: 36 53 40 76 25 53**
Outfall #: 004	**Lat Lon: 36 53 42 76 25 44**
Outfall #: 005	**Lat Lon: 36 53 49 76 25 38**
Outfall #: 006	**Lat Lon: 36 53 58 76 25 32**
Outfall # 007	**Lat Lon: 36 53 40 76 25 48**

Planning Review:

303 (d): Indicate Outfalls which discharge directly to an impaired (Category 5) stream segment	
Outfall 001 discharges to impaired segment VAT-G15E_JMS05A06. Impairments include Chl a, D.O and PCBs. Outfalls 002-007 discharge to impaired segment VAT-G15E_SRE01A06. Impairments include D.O. and PCBs. See Attachment 1.	
Tier Determination	
Tier	Both receiving streams are Tier 1 water. See Attachment 1.
Tier	
Management Plan	
Is the facility Referenced in a Management Plan?	No

Review will be completed in 30 days of receipt of request.

Additional Comments:

KNB 2/28/2012

2010 Impaired Waters - 303(d) List

Category 5 - Waters needing Total Maximum Daily Load Study

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

James River Basin

Cause Group Code / Impaired Use	Water Name / Cause	Cause Category	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)	Initial List Date	TMDL Dev. Date
APPTF-SAV-BAY	Appomattox River						
Aquatic Life	Aquatic Plants (Macrophytes)	5A	2.705			2006	2010
Shallow-Water Submerged Aquatic Vegetation	Aquatic Plants (Macrophytes)	5A	2.705			2006	2010
EBEMH-DO-BAY	Eastern Branch Elizabeth River, Broad Creek and Indian River						
Aquatic Life	Oxygen, Dissolved	5A	2.287			2006	2010
Open-Water Aquatic Life	Oxygen, Dissolved	5A	2.287			2006	2010
ELIPH-DO-BAY	Chesapeake Bay segment ELIPH (Elizabeth River Mainstem)						
Aquatic Life	Oxygen, Dissolved	5A	8.162			2006	2010
Open-Water Aquatic Life	Oxygen, Dissolved	5A	8.162			2006	2010
G01E-01-BAC	James River						
Recreation	Escherichia coli	5A	1.466			1996	2010
	Escherichia coli	5A	2.828			2006	2010
	Escherichia coli	5A	1.964			2008	2010
G01E-02-CHLA	James River						
Aquatic Life	Chlorophyll-a	5A	5.512			2008	2010
Open-Water Aquatic Life	Chlorophyll-a	5A	5.512			2008	2010
G01E-03-PCB	James River and Various Tributaries						
Fish Consumption	PCB in Fish Tissue	5A	62.773			2002	2014
	PCB in Fish Tissue	5A	1.837			2004	2016
	PCB in Fish Tissue	5A	191.816			2006	2018
	PCB in Fish Tissue	5D			7.50	2006	2018
	PCB in Fish Tissue	5A	0.012			2008	2014
	PCB in Fish Tissue	5A	0.003			2010	2018
G01L-01-BAC	Falling Creek Reservoir						
Recreation	Escherichia coli	5A		88.37		2008	2020
G01L-01-PH	Falling Creek Reservoir						
Aquatic Life	pH	5C		88.37		2010	2022
G01R-01-BAC	Goode Creek						
Recreation	Escherichia coli	5A			1.25	2006	2014
G01R-02-BAC	Almond Creek						
Recreation	Escherichia coli	5A			2.36	2006	2010
G01R-02-PH	XVO and XVP (Almond Creek, UTs)						
Aquatic Life	pH	5A			0.54	2004	2016
G01R-03-BAC	Falling Creek						
Recreation	Escherichia coli	5A			3.11	2006	2014
G01R-04-BAC	Falling Creek						
Recreation	Escherichia coli	5A			16.99	2006	2018
G01R-04-DO	Falling Creek						
Aquatic Life	Oxygen, Dissolved	5A			0.98	2008	2020

2010 Impaired Waters - 303(d) List

Category 5 - Waters needing Total Maximum Daily Load Study

James River Basin

Cause Group Code / Impaired Use	Water Name / Cause	Cause Category	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)	Initial List Date	TMDL Dev. Date
G09R-02-BAC	Diascund Creek						
Recreation	Escherichia coli	5A			6.88	2008	2020
G09R-02-DO	Diascund Creek						
Aquatic Life	Oxygen, Dissolved	5C			6.88	2008	2020
G10E-04-CHLA	James River - Lower						
Aquatic Life	Chlorophyll-a	5A	126.390			2008	2010
	Chlorophyll-a	5A	0.782			2010	2010
Open-Water Aquatic Life	Chlorophyll-a	5A	126.390			2008	2010
	Chlorophyll-a	5A	0.782			2010	2010
G10E-05-EBEN	James River Mainstem - Chickahominy R. to Hog Point						
Aquatic Life	Estuarine Bioassessments	5A	26.128			2004	2016
G10E-06-BAC	College Creek						
Recreation	Enterococcus	5A	0.568			2006	2018
G10R-01-BAC	College Run						
Recreation	Fecal Coliform	5A			2.39	2002	2014
G10R-02-BEN	Powhatan Creek						
Aquatic Life	Benthic-Macroinvertebrate Bioassessments	5A			5.35	2002	2014
G10R-03-DO	Dark Swamp, UT (XHC)						
Aquatic Life	Oxygen, Dissolved	5A			1.30	2010	2022
G11E-05-EBEN	James River - Hog Point Downstream to West side of Craney Island						
Aquatic Life	Estuarine Bioassessments	5A	24.428			2006	2018
	Estuarine Bioassessments	5A	73.889			2010	2022
G11E-17-SF	Ballard Creek & Bay, James River - Ballard Swamp Area and Kings Creek & Bay						
Shellfishing	Fecal Coliform	5B	0.096			1998	2010
	Fecal Coliform	5B	0.068			2010	2022
G11E-18-SF	Tylers Beach Boat Basin						
Shellfishing	Fecal Coliform	5B	0.003			2004	2016
G11E-19-SF	James River - Outside Chuckatuck Creek						
Shellfishing	Fecal Coliform	5B	0.564			2010	2022
G11L-01-CU	Lee Hall Reservoir						
Aquatic Life	Copper	5A		290.06		2004	2016
Wildlife	Copper	5A		290.06		2004	2016
G11L-01-DO	Lee Hall Reservoir						
Aquatic Life	Oxygen, Dissolved	5A		290.06		2006	2018
G11L-01-HG	Lee Hall Reservoir						
Fish Consumption	Mercury in Fish Tissue	5A		290.06		2010	2022
G11L-01-PCB	Lee Hall Reservoir						
Fish Consumption	PCB in Fish Tissue	5A		290.06		2010	2022

2010 Impaired Waters - 303(d) List

Category 5 - Waters needing Total Maximum Daily Load Study

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

James River Basin

Cause Group Code / Impaired Use	Water Name / Cause	Cause Category	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)	Initial List Date	TMDL Dev. Date
J16R-02-PH	Blackman Creek						
Aquatic Life	pH	5C			4.45	2004	2016
J17L-01-DO	Swift Creek Lake						
Aquatic Life	Oxygen, Dissolved	5A		102.42		2006	2018
J17R-01-BEN	Swift Creek						
Aquatic Life	Benthic-Macroinvertebrate Bioassessments	5A			7.10	2010	2022
J17R-01-DO	Swift Creek						
Aquatic Life	Oxygen, Dissolved	5A			7.10	2002	2014
J17R-03-PH	Franks Branch						
Aquatic Life	pH	5C			10.02	2006	2018
J17R-05-PH	Church Branch						
Aquatic Life	pH	5C			2.56	2010	2022
J17R-06-DO	Nuttree Branch						
Aquatic Life	Oxygen, Dissolved	5C			5.31	2010	2022
J17R-06-PH	Nuttree Branch						
Aquatic Life	pH	5C			5.31	2010	2022
J17R-07-PH	Second Branch						
Aquatic Life	pH	5C			5.84	2010	2022
J17R-08-DO	Swift Creek						
Aquatic Life	Oxygen, Dissolved	5A			3.66	2010	2022
J17R-09-BEN	Swift Creek						
Aquatic Life	Benthic-Macroinvertebrate Bioassessments	5A			2.79	2010	2022
J17R-10-PH	Timsbury Creek						
Aquatic Life	pH	5C			6.65	2010	2022
J17R-11-PH	Long Swamp						
Aquatic Life	pH	5C			3.65	2010	2022
JMSMH-DO-BAY	James River CBP segment JMSMH and Tidal Tributaries						
Aquatic Life	Oxygen, Dissolved	5A	100.143			1998	2010
	Oxygen, Dissolved	5A	18.371			2006	2010
Open-Water Aquatic Life	Oxygen, Dissolved	5A	100.143			1998	2010
	Oxygen, Dissolved	5A	18.371			2006	2010
JMSOH-DO-BAY	James River CBP segment JMSOH and Tidal Tributaries						
Aquatic Life	Oxygen, Dissolved	5A	48.740			2006	2010
Open-Water Aquatic Life	Oxygen, Dissolved	5A	2.212			2006	2010
JMSPH-BNUT-BAY	James River CBP segment JMSPH and Tidal Tributaries						
Aquatic Life	Nutrient/Eutrophication Biological Indicators	5A	25.011			2010	2010

Appendix A - List of Impaired (Category 5) Waters in 2010

James River Basin

Cause Group Code: **G01E-03-PCB** **James River and Various Tributaries**

Location: Estuarine James River from the fall line to the Hampton Roads Bridge Tunnel, including several tributaries listed below: Appomattox River up to Lake Chesdin Dam
Bailey Creek up to Route 630
Bailey Bay
Chickahominy River up to Walkers Dam
Skiffes Creek up to Skiffes Creek Dam
Pagan River and its tributary Jones Creek
Chuckatuck Creek
Nansemond River and its tributaries Bennett Creek and Star Creek
Hampton River
Willoughby Bay and the Elizabeth R. system (Western, Eastern, and Southern Branches and Lafayette R.) and tributaries St. Julian Creek, Deep Creek, and Broad Creek

City / County:

Charles City Co.	Chesapeake City	Chesterfield Co.	Colonial Heights City	Dinwiddie Co.
Hampton City	Henrico Co.	Hopewell City	Isle Of Wight Co.	James City Co.
New Kent Co.	Newport News City	Norfolk City	Petersburg City	Portsmouth City
Prince George Co.	Richmond City	Suffolk City	Surry Co.	Virginia Beach City
Williamsburg City				

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A PCB in Fish Tissue / 5D

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs fish tissue contamination within the James River and select tidal tributaries, issued 12/13/04. During the 2002 cycle, the James River from the Fall line to Queens Creek was considered not supporting of the Fish Consumption Use due to PCBs in multiple fish species at multiple DEQ monitoring locations.

During the 2004 cycle, a VDH Fish Consumption Restriction was issued from the fall line to Flowerdew Hundred and the segment was adjusted slightly to match the Restriction.

However, during the 2006 cycle, the restriction was extended on 12/13/2004 to extend from the I-95 bridge downstream to the Hampton Roads Bridge Tunnel and include the tidal portions of the following tributaries:

Appomattox River up to Lake Chesdin Dam
Bailey Creek up to Route 630
Bailey Bay
Chickahominy River up to Walkers Dam
Skiffes Creek up to Skiffes Creek Dam
Pagan River and its tributary Jones Creek
Chuckatuck Creek
Nansemond River and its tributaries Bennett Creek and Star Creek
Hampton River
Willoughby Bay and the Elizabeth R. system (Western, Eastern, and Southern Branches and Lafayette R.) and tributaries St. Julian Creek, Deep Creek, and Broad Creek

Appendix A - List of Impaired (Category 5) Waters in 2010

James River Basin

The advisory was modified again on 10/10/2006 to add Poythress Run.

James River and Various Tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**256.441**		**7.50**

Sources:

Contaminated Sediments

Source Unknown

Sources Outside State Jurisdiction or Borders

Appendix A - List of Impaired (Category 5) Waters in 2010

James River Basin

Cause Group Code: **G10E-04-CHLA** **James River - Lower**

Location: The mainstem of the James River within the Mesohaline and Polyhaline portions of the James Estuary.

City / County: Hampton City, Isle Of Wight Co., James City Co., Newport News City, Norfolk City, Portsmouth City, Suffolk City, Surry Co.

Use(s): Aquatic Life, Open-Water Aquatic Life

Cause(s) / VA Category: Chlorophyll-a / 5A

The Chlorophyll a - Spring criteria for Plankton failed for the 2008 assessment. The Chlorophyll a - Summer criteria is meeting for the 2008 assessment period.

James River - Lower **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:	**127.172**		

James River - Lower **Open-Water Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:	**127.172**		

Sources:

- Industrial Point Source Discharge
- Municipal Point Source Discharges
- Non-Point Source

Appendix A - List of Impaired (Category 5) Waters in 2010

James River Basin

Cause Group Code: **JMSMH-DO-BAY** **James River CBP segment JMSMH and Tidal Tributaries**

Location: This cause encompasses the entirety of the James River CBP segment JMSMH and tidal tributaries. From start of JMSMH salinity boundary (Hog Island Creek) downstream to line between Blunt Point NN) /Goodwin Pt. (Isle of Wight). CBP segment JMSMH.

City / County: Isle Of Wight Co. James City Co. Newport News City Portsmouth City Suffolk City
Surry Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) / VA Category: Oxygen, Dissolved / 5A

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. The 30-day dissolved oxygen criteria for Open Water Use failed for the 2008 assessment. There is insufficient data to assess remaining shorter-term dissolved oxygen criteria for this use. The mainstem James River was included in EPA's 1998 303(d) Overlisting as impaired of the Aquatic Life Use; the impairment was attributed to excessive nutrients. During the 2006 cycle, the revised Chesapeake Bay water quality standards were adopted.

1998 CD segment for nutrients (Attachment A, Category 1, Part 2) VAT-G10E-04.

James River CBP segment JMSMH and Tidal Tributaries **Aquatic Life**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Oxygen, Dissolved - Total Impaired Size by Water Type:	**118.514**		

James River CBP segment JMSMH and Tidal Tributaries **Open-Water Aquatic Life**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Oxygen, Dissolved - Total Impaired Size by Water Type:	**118.514**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

VIRGINIA

305(b)/303(d)

WATER QUALITY INTEGRATED REPORT

to

CONGRESS and the EPA ADMINISTRATOR

for the

PERIOD

January 1, 2003 to December 31, 2008

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

DCR
Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL AND RECREATIONAL RESOURCES

Richmond, Virginia

November 2010

ATTACHMENT 10

TABLE III(a) AND TABLE III(b) - CHANGE SHEETS

TABLE III(a)
VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL

TABLE III(a)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

OTHER CHANGES:	Comments:	DATE & INITIAL
Added outfall 007 for stormwater discharges		3/7/12 DDA
Changed boilerplate language to include the VELAP information		DDA 3/7/12
Changed special condition C.11 (Sludge Management Plan) to not have a VDH reference since they no longer are involved in the program.		DDA 3/7/12
QL changed for BOD from 5 mg/l to 2 mg/l.	Changed based upon the significant figures guidance 06-2016.	3/7/12 DDA

TABLE III(b)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes MADE DURING PERMIT PROCESS and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL

ATTACHMENT 11

EPA PERMIT CHECKLIST

State "Transmittal Checklist" to Assist in Targeting Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: HRSD Nansemond STP

NPDES Permit Number: VA0081299

Permit Writer Name: Deanna Austin

Date: March 7, 2012

Major [X] **Minor** [ ] **Industrial** [ ] **Municipal** [X]

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		

4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?			X
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?			X
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?		X	
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		

3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?	X		

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?	X		
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the "Nine Minimum Controls"?			X
b. Does the permit require development and implementation of a "Long Term Control Plan"?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?	X		

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

List of Standard Conditions – 40 CFR 122.41

Duty to comply
Duty to reapply
Need to halt or reduce activity
Not a defense
Duty to mitigate
Proper O & M
Permit actions

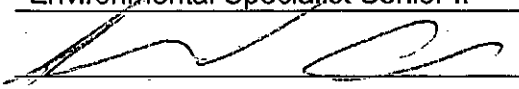
Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset

Reporting Requirements
Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24-Hour reporting
Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Deanna Austin
Title	Environmental Specialist Senior II
Signature	
Date	March 7, 2012

ATTACHMENT 12

CHRONOLOGY SHEET

Chronology

Wednesday, March 07, 2012

Facility Name: HRSD - Nansemond Sewage Treatment Plant *VA0081299*

Event	*Date*	*Comment*
Application fee deposited:	—	NA-Reissuance
Comments rec'vd from State Agencies on App:	—	2/15/12 VDH
First Application Reminder Phone Call:	—	NA-App received 2/6/12
Second Application Reminder Phone Call:	—	NA-App received 2/6/12
Site visit:	— 3/31/2010	
Site inspection report:	— 4/15/2010	
Application received at RO 1st time:	— 2/6/2012	
Applic/Additional Info received at RO 2nd time:	— 2/7/2012	Additional Info received
Application Administratively complete:	— 2/7/2012	
Application totally / technically complete:	— 2/7/2012	
App sent to State Agencies (list in comment field):	— 2/10/2012	VDH, DSS and VMRC
App complete letter sent to permittee:	— 2/29/2012	
Draft permit developed:	— 3/7/2012	
Old expiration date:	— 11/29/2012	
First DMR due:	— 1/10/2013	